



#4

SEQUENCE LISTING

<110> Shimkets, Richard
Lichenstein, Henri
Vernet, Corine
Fernandes, Elma

<120> NOVEL POLYPEPTIDES AND NUCLEIC ACIDS ENCODING SAME

<130> 15966-606

<140> 09/715,417

<141> 2000-11-16

<150> 60/166,336

<151> 1999-11-19

<150> 60/167,785

<151> 1999-11-29

<150> 60/187,844

<151> 2000-03-08

<160> 38

<170> PatentIn Ver. 2.1

<210> 1

<211> 791

<212> DNA

<213> Homo sapiens

<400> 1

```
attctgatca cagctgggtg gtattctgat cacagctggg tggattctg atcacagctg 60
gggtgggtattc tgatcacagc tgggtgggtat tctgatacaca gctgggtgggt attctgatca 120
cagctgggtg gtattctgat cacagctggg tggattctg atcacagctg ggtgggtattc 180
tgatcacagc tgggtgggtat tctgatacaca gctgggtgggt gatgcccaga gtctccattc 240
caccctatcc aattgctgga ggagttgatg acttagatga agacacaccc ccaatagtgt 300
cacaatttcc cgggaccatg gctaaacctc ctggatcatt agccagaagc agcagcctgt 360
gccgttcacg ccgcagcatt gtgccgtcct cgcctcagcc tcagcgagct cagcttgctc 420
cacacgcccc ccaccgtca caccctcggc accctcacca cccgcaacac acaccacact 480
ccttgcccttc ccctgatcca gatatactct cagtgtcaag ttgccctgcg ctttatcgaa 540
atgaagagga ggaagaggcc atttacttct ctgctgaaaa gcaatgtatg atcatagtca 600
ccagcaagat gcctttactg acagaactgg tcttggtgtg tttctggaaa tcagaaggaa 660
aactcgagag ctgcactgtc taataaaaact tcctgcattg atggaacgtt cagttctcat 720
ttcaatagca atgtcaaagt ttcatagcta gctctcataa ataagagaat gatttgaatt 780
tggaaaaaaaa a 791
```

<210> 2

<211> 153

<212> PRT

<213> Homo sapiens

<400> 2

```
Met Pro Arg Val Ser Ile Pro Pro Tyr Pro Ile Ala Gly Gly Val Asp
  1                      5                      10                      15
```

RECEIVED
DEC 26 2001
TECH CENTER 1600/2900

Asp Leu Asp Glu Asp Thr Pro Pro Ile Val Ser Gln Phe Pro Gly Thr
 20 25 30
 Met Ala Lys Pro Pro Gly Ser Leu Ala Arg Ser Ser Ser Leu Cys Arg
 35 40 45
 Ser Arg Arg Ser Ile Val Pro Ser Ser Pro Gln Pro Gln Arg Ala Gln
 50 55 60
 Leu Ala Pro His Ala Pro His Pro Ser His Pro Arg His Pro His His
 65 70 75 80
 Pro Gln His Thr Pro His Ser Leu Pro Ser Pro Asp Pro Asp Ile Leu
 85 90 95
 Ser Val Ser Ser Cys Pro Ala Leu Tyr Arg Asn Glu Glu Glu Glu Glu
 100 105 110
 Ala Ile Tyr Phe Ser Ala Glu Lys Gln Cys Met Ile Ile Val Thr Ser
 115 120 125
 Lys Met Pro Leu Leu Thr Glu Leu Val Leu Cys Gly Phe Trp Lys Ser
 130 135 140
 Glu Gly Lys Leu Glu Ser Cys Thr Val
 145 150

<210> 3
 <211> 2011
 <212> DNA
 <213> Homo sapiens

<400> 3
 ggggtgtgatg ggcttctagt ttctctagct gcatcaccct tgaaccatcc agagtcccag 60
 taagccacgg gcttgagcat ggaggagaat cctcagagac agaaccctg cccacatgtc 120
 tgggccttgc tcaagccagc aaggggctga atccctgtgt ttcaggactc aggtttgctg 180
 agtgtcatca ccgatcccat ccacacccca gtcaactctct tctggccac cgaccaagcc 240
 ctccatgccc tacctgctga acaacaggac ttctgttca accaagacaa caaggacaag 300
 ctgaaggagt atttgaagtt tcatgtgata cgagatgcca aggttttagc tgtggatctt 360
 cccacatcca ctgcctggaa gacctgcaa ggttcagagc tgagtgtgaa atgtggagct 420
 ggcaggggaca tcggtgacct cttcttgaat ggccaaacct gcagaattgt gcagcgggag 480
 ctcttggttg acctgggtgt ggctacggc attgactgtc tgctgattga tcccacctg 540
 gggggccgct gtgacacctt tactactttc gatgcctcgg gggagtgtgg gagctgtgtc 600
 aatactccca gctgcccag gtggagtaaa ccaaagggtg tgaagcagaa gtgtctctac 660
 aacctgcct tcaagaggaa cctggaaggc tgccgggagc gatgcagcct ggtgatacag 720
 atccccaggt gctgcaagg ctacttcggg cgagactgtc aggctgccc tggaggacca 780
 gatgccccgt gtaataaccg ggggtgtctgc cttgatcagt actcgccac cggagagtgt 840
 aaatgcaaca ccggttcaa tgggacggcg tgtgagatgt gctggccggg gagatttggg 900
 cctgattgtc tgccctgtgg ctgctcagac cacggacagt gcgatgatgg catcacgggc 960
 tccgggcagt gcctctgtga aacgggggtg acaggcccct cgtgtgacac tcaggcagtt 1020
 ttgtctgcag tgtgtacgcc tccttgttct gctcatgcca cctgtaagga gaacaacacg 1080
 tgtgagtgtg acctggatta tgaagggtgac ggaatcacat gcacagttgt ggatttctgc 1140
 aaacaggaca acgggggctg tgcaaagggt gccagatgct cccagaaggg cacgaaggtc 1200
 tcctgcagct gccagaagg atacaaaggg gacgggcaca gctgcacaga gatagacccc 1260
 tgtgcagacg gccttaacgg aggggtgtcac gagcacgcca cctgtaagat gacaggcccc 1320
 ggcaagcaca agtgtgagt taaaagtcac tatgtcggag atgggctgaa ctgtgagccg 1380
 gagcagctgc ccattgaccg ctgcttacag gacaatgggc agtgccatgc agacgcaaaa 1440

tgtgccgacc tccacttcca ggataccact gttgggggtgt tccatctacg ctccccactg 1500
 ggccagtata agctgacctt tgacaaagcc agagaggcct gtgccaacga agctgcgacc 1560
 atggcaacct acaaccagct ctctatgcc cagaaggcca agtaccacct gtgctcagca 1620
 ggctggctgg agaccgggcg ggttgccctac cccacagcct tcgcctccca gaactgtggc 1680
 tctgggtgtg ttgggatagt ggactatgga cccagaccca acaagagtga aatgtgggat 1740
 gtcttctgct atcggatgaa aggaagtgtt ggcctattcc aacagctcag ctcgaggccg 1800
 tgcatttcta gaacacctga ctgacctgtc catccgcggc accctctttg tgccacagaa 1860
 cagtgggctg ggggagaatg agaccttgtc tgggcgggac atcgaacacc acctcgccaa 1920
 tgtcagcatg tttttctaca atgacctgtt caatggcacc accctgcaaa cgaggctggg 1980
 aagcaagctg ctcactactg ccagccagga c 2011

<210> 4
 <211> 315
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Cys Trp Pro Gly Arg Phe Gly Pro Asp Cys Leu Pro Cys Gly Cys
 1 5 10 15
 Ser Asp His Gly Gln Cys Asp Asp Gly Ile Thr Gly Ser Gly Gln Cys
 20 25 30
 Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys Asp Thr Gln Ala Val
 35 40 45
 Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala His Ala Thr Cys Lys
 50 55 60
 Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr Glu Gly Asp Gly Ile
 65 70 75 80
 Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp Asn Gly Gly Cys Ala
 85 90 95
 Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys Val Ser Cys Ser Cys
 100 105 110
 Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys Thr Glu Ile Asp Pro
 115 120 125
 Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu His Ala Thr Cys Lys
 130 135 140
 Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys Lys Ser His Tyr Val
 145 150 155 160
 Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu Pro Ile Asp Arg Cys
 165 170 175
 Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala Lys Cys Ala Asp Leu
 180 185 190
 His Phe Gln Asp Thr Thr Val Gly Val Phe His Leu Arg Ser Pro Leu
 195 200 205
 Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg Glu Ala Cys Ala Asn

210	215	220
Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu Ser Tyr Ala Gln Lys		
225	230	235 240
Ala Lys Tyr His Leu Cys Ser Ala Gly Trp Leu Glu Thr Gly Arg Val		
	245	250 255
Ala Tyr Pro Thr Ala Phe Ala Ser Gln Asn Cys Gly Ser Gly Val Val		
	260	265 270
Gly Ile Val Asp Tyr Gly Pro Arg Pro Asn Lys Ser Glu Met Trp Asp		
	275	280 285
Val Phe Cys Tyr Arg Met Lys Gly Ser Ala Gly Leu Phe Gln Gln Leu		
	290	295 300
Ser Ser Arg Pro Cys Ile Ser Arg Thr Pro Asp		
305	310	315

<210> 5

<211> 1804

<212> DNA

<213> Homo sapiens

<400> 5

```

gggtgtgatg ggcttctagt ttctctagct gcatcacctt tgaaccatcc agagtcccag 60
taagccacgg gcttgagcat ggaggagaat cctcagagac agaacccttg cccacatgtc 120
tgggccttgc tcaagccagc aaggggctga atccctgtgt ttcaggactc aggttttctg 180
agtgtcatca ccgatcccat ccacacccca gtcactctct tctggcccac cgaccaagcc 240
ctccatgccc tacctgctga acaacaggac ttctgttca accaagacaa caaggacaag 300
ctgaaggagt atttgaagtt tcatgtgata cgagatgcca aggttttagc tgtggatctt 360
cccacatcca ctgcctggaa gaccctgcaa gggttcagagc tgagtgtgaa atgtggagct 420
ggcagggaca tcggtgacct ctttctgaat ggccaaacct gcagaattgt gcagcgggag 480
ctcttgtttg acctgggtgt ggccctacggc attgactgtc tgctgattga tcccaccctg 540
gggggcccgt gtgacacctt tactactttc gatgcctcgg gggagtgtgg gagctgtgtc 600
aatactccca gctgcccagg gtggagtaaa ccaaagggtg tgaagcagaa gtgtctctac 660
aacctgccct tcaagaggaa cctggaaggc tgccgggagc gatgcagcct ggtgatacag 720
atccccaggt gctgcaaggc ctacttcggg cgagactgtc aggcctgccc tggaggacca 780
gatgccccgt gtaataaccg ggggtgtctg cttgatcagt actcggccac cggagagtgt 840
aaatgcaaca ccggcttcaa tgggacggcg tgtgagatgt gctggccggg gagatttggg 900
cctgattgtc tgccctgtgg ctgctcagac cacggacagt gcgatgatgg catcacgggc 960
tccgggcagt gcctctgtga aacggggtgg acaggccctt cgtgtgacac tcaggcagtt 1020
ttgtctgcag tgtgtacgcc tccttgttct gctcatgcca cctgtaagga gaacaacacg 1080
tgtgagtgtg acctggatta tgaagggtgac ggaatcacat gcacagttgt ggatttctgc 1140
aaacaggaca acgggggctg tgcaaagggt gccagatgct cccagaaggg cacgaagggtc 1200
tctgacagct gccagaaggg atacaaaggg gacgggcaca gctgcacaga gatagacccc 1260
tgtgcagacg gccttaacgg aggggtgtcac gagcacgcca cctgtaagat gacaggccccg 1320
ggcaagcaca agtgtgagtg taaaagtcac tatgtcggag atgggctgaa ctgtgagccg 1380
gagcagctgc ccattgaccg ctgcttacag gacaatgggc agtgccatgc agacgccaaa 1440
tgtgtcgacc tccacttcca ggataccact gttgggggtg tccatctacg ctccccactg 1500
ggccagtata agctgacctt tgacaaaagg agagaggcct gtgccaacga agctgcgacc 1560
atggcaacct acaaccagct ctctatgccc cagaagagag aagagaaatg agtatgaaag 1620
acctgggcac ctacaagaaa gagaggacac ttttgttcac ccagtggctc aatcaaacag 1680
tcaacatcta atgaccacct actgtgtgcc aggcacagag gtgcaatagg caaagccaag 1740
taccacctgt gctcagcagg ctggctggag accgggcggg ttgcctaccc cacagccttc 1800
gcct

```

1804

<210> 6
 <211> 244
 <212> PRT
 <213> Homo sapiens

<400> 6
 Met Cys Trp Pro Gly Arg Phe Gly Pro Asp Cys Leu Pro Cys Gly Cys
 1 5 10 15
 Ser Asp His Gly Gln Cys Asp Asp Gly Ile Thr Gly Ser Gly Gln Cys
 20 25 30
 Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys Asp Thr Gln Ala Val
 35 40 45
 Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala His Ala Thr Cys Lys
 50 55 60
 Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr Glu Gly Asp Gly Ile
 65 70 75 80
 Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp Asn Gly Gly Cys Ala
 85 90 95
 Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys Val Ser Cys Ser Cys
 100 105 110
 Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys Thr Glu Ile Asp Pro
 115 120 125
 Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu His Ala Thr Cys Lys
 130 135 140
 Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys Lys Ser His Tyr Val
 145 150 155 160
 Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu Pro Ile Asp Arg Cys
 165 170 175
 Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala Lys Cys Val Asp Leu
 180 185 190
 His Phe Gln Asp Thr Thr Val Gly Val Phe His Leu Arg Ser Pro Leu
 195 200 205
 Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg Glu Ala Cys Ala Asn
 210 215 220
 Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu Ser Tyr Ala Gln Lys
 225 230 235 240
 Arg Glu Glu Lys

<210> 7

<211> 1450
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (31)
 <223> wherein n is g or a or t or c

<400> 7
 cggcctgtta tttccttttg cgcgacacgg nctcagctgt tgcgcctttg gcgagtgcag 60
 ctggccgccca acgaggtata cgtactggga ccctcgccct cagtctcgtc tccggcgagg 120
 ctacctgccc cgttttccct gtgagttgac ctgctccggg ccgcgggcgc caatggcagg 180
 ggccgctccg accacggcct tcgggcaggc ggtgatcggc ccgccggcgt caggggaagac 240
 cacgtactgc ctgggcatga gtgagttcct gcgcgcgctg ggccggcgct tggcgggtgtg 300
 tgaacctgga cccggccaac gaggggctgc cgtacgagtg tgccgtggac gtgggcgagc 360
 tgggtggggct gggcgacgtg atggacgcgc tgcccttggg ggcccaacgg cggcctgctc 420
 tactgcatgg agtacctgga agccaacctg gactggctgc gtgccaagct cgacccccctc 480
 cgcggccact acttcctctt cgactgcca ggccagggtg agctctgcac gcatcacggc 540
 gccttgcgag catcttctcc caaatggcgc agtgggacct caggctgact gccgtccacc 600
 tcgtggattc tctactactgc acagaccctg ccaagtccat ttcagtactg tgtacctccc 660
 tggccaccat gctgcacgtg gaactgagcc cacatcaacc tcctttccaa gatggacctc 720
 attgagcatt atgggaagct ggccttcaac ctggactact acacagaggt tctggacctc 780
 tctactctgc ttgaccacct ggcttctgac cctttcttcc gccactaccg ccagctcaat 840
 gagaagctag tgcagctcat cgaagactat agccttgtct cctttatccc tctcaacatc 900
 caggacaagg agagcatcca gcgagtcctt caggctgtgg ataaagccaa tggatactgt 960
 ttcggagccc aagagcagcg aagcttggaa gccatgatgt ctgccgcaat gggagccgac 1020
 ttccatttct cttccacact gggcatccag gagaagtacc tggcaccctc gaaccagtca 1080
 gtggagcagg aagccatgca gctgtagcaa caagggtggac cctggagagc aggatgcata 1140
 atccagcact ggggaaagtg gaggtcctg atgcaggctg cagacccaag agcaagtcct 1200
 cccagccaga gctggcgggc tggcaagggg atattcagct ctgcaaagga cttctggcca 1260
 aaaagccaga catggtgcc agcagaacac cccccatact gtcagtgggtg tccgtgagct 1320
 ctggggccctg ccaccagaaa gtcgagcact ggtcctagtc aggtctgtgat gaaatgtgct 1380
 acaatacaag agtttatttt ctaaaaaaaaa aaaaaaaaaa ccgcggcggc tcccacttca 1440
 gattggtaac 1450

<210> 8
 <211> 225
 <212> PRT
 <213> Homo sapiens

<400> 8
 Met Ala Gly Ala Ala Pro Thr Thr Ala Phe Gly Gln Ala Val Ile Gly
 1 5 10 15
 Pro Pro Ala Ser Gly Lys Thr Thr Tyr Cys Leu Gly Met Ser Glu Phe
 20 25 30
 Leu Arg Ala Leu Gly Arg Arg Leu Ala Val Cys Glu Pro Gly Pro Gly
 35 40 45
 Gln Arg Gly Ala Ala Val Arg Val Cys Arg Gly Arg Gly Arg Ala Gly
 50 55 60
 Gly Ala Gly Arg Arg Asp Gly Arg Ala Ala Leu Gly Gly Pro Thr Ala
 65 70 75 80

Ala	Cys	Ser	Thr	Ala	Trp	Ser	Thr	Trp	Lys	Pro	Thr	Trp	Thr	Gly	Cys
				85					90					95	
Val	Pro	Ser	Ser	Thr	Pro	Ser	Ala	Ala	Thr	Thr	Ser	Ser	Ser	Thr	Ala
				100				105					110		
Gln	Ala	Arg	Trp	Ser	Ser	Ala	Arg	Ile	Thr	Ala	Pro	Cys	Glu	His	Leu
		115					120					125			
Leu	Pro	Asn	Gly	Ala	Val	Gly	Pro	Gln	Ala	Asp	Cys	Arg	Pro	Pro	Arg
		130				135					140				
Gly	Phe	Ser	Leu	Leu	His	Arg	Pro	Cys	Gln	Val	His	Phe	Ser	Thr	Val
145					150					155					160
Tyr	Leu	Pro	Gly	His	His	Ala	Ala	Arg	Gly	Thr	Glu	Pro	Thr	Ser	Thr
				165					170					175	
Ser	Phe	Pro	Arg	Trp	Thr	Ser	Leu	Ser	Ile	Met	Gly	Ser	Trp	Pro	Ser
			180					185					190		
Thr	Trp	Thr	Thr	Thr	Gln	Arg	Phe	Trp	Thr	Ser	Pro	Thr	Cys	Leu	Thr
		195					200					205			
Thr	Trp	Leu	Leu	Thr	Leu	Ser	Ser	Ala	Thr	Thr	Ala	Ser	Ser	Met	Arg
	210					215					220				
Ser															
225															

<210> 9
 <211> 1324
 <212> DNA
 <213> Homo sapiens

<400> 9
 ggactgaaga gtagtagtgt gggctgggac cgctggcact cactctgcct gtccccccgc 60
 aggtggcaat ggtggagggt cagctggacg ctgaccacga ctaccaccgc gggctgctca 120
 tcgccttcag tgccctgcacc acagtgcctg tggtctgtgca cctgtttgcg ctcatgatca 180
 gcacctgcac cctgcccac atcgaggcgg tgagcaacgt gcacaatctc aactcgggtca 240
 aggagtcgcc ccatgagcgc atgcaccgcc acatcgagct ggccctgggccc ttctccaccg 300
 tcatcgggcac gctgctcttc ctagctgagg tgggtgctgct ctgctggggtc aagttcttgc 360
 ccctcaagaa gcagccaggc cagccaaggc ccaccagcaa gccccccgcc agtggcgag 420
 cagccaacgt cagcaccagc ggcacacccc cggggccaggc agctgccatc gcctcgacca 480
 ccatcatggt gcccttcggc ctgatcttta tegtcttcgc cgtccacttc taccgctcac 540
 tggtagcca taagactgac cgacagttcc aggagctcaa cgagctggcg gagtttgccc 600
 gcttacagga ccagctggac cacagagggg accaccccct gacgcccggc agccactatg 660
 cctaggccca tgtgggtctg gcccttcag tgccttgggc ttacgcccct ccccttgacc 720
 ttgtcctgcc ccagcctcac ggacagcctg cgcagggggc tgggcttcag caaggggag 780
 agcatggagg gaagaggatt tttataagag aaatttctgc actttgaaac tgcctctaa 840
 gagaataagc atttctgtt cttccagctc caggctccacc tcctgttggg aggcggtggg 900
 gggccaaagt gggggccacac actcgtgtgt tccccctccc tccccgtgc cagtgccacc 960
 tgggtgcctc ctctgtcct gtccgtctca acctcccctc cgtccagcat tgagtgtgta 1020
 catgtgtgtg tgacacataa atatactcat aaggacacct ccttcccgtg tcttgattt 1080
 gttgggcctg ggctactgct caccctgggt aggtgagcct ctaggaaaac ttaaaacaaa 1140
 ttttaagcca ggtatgggtg cacatacctg tggctcagc tattcaggag gccaaaggag 1200
 gaggatctct tgagcccagg agtttgagac cccatctcaa acaaaaaata caaaaattag 1260

ccagccacgg cgctgcact tccagctcct ttgagagact gaggcaggaa gattgcctaa 1320
gccc 1324

<210> 10
<211> 198
<212> PRT
<213> Homo sapiens

<400> 10
Met Val Glu Val Gln Leu Asp Ala Asp His Asp Tyr Pro Pro Gly Leu
1 5 10 15
Leu Ile Ala Phe Ser Ala Cys Thr Thr Val Leu Val Ala Val His Leu
20 25 30
Phe Ala Leu Met Ile Ser Thr Cys Ile Leu Pro Asn Ile Glu Ala Val
35 40 45
Ser Asn Val His Asn Leu Asn Ser Val Lys Glu Ser Pro His Glu Arg
50 55 60
Met His Arg His Ile Glu Leu Ala Trp Ala Phe Ser Thr Val Ile Gly
65 70 75 80
Thr Leu Leu Phe Leu Ala Glu Val Val Leu Leu Cys Trp Val Lys Phe
85 90 95
Leu Pro Leu Lys Lys Gln Pro Gly Gln Pro Arg Pro Thr Ser Lys Pro
100 105 110
Pro Ala Ser Gly Ala Ala Ala Asn Val Ser Thr Ser Gly Ile Thr Pro
115 120 125
Gly Gln Ala Ala Ala Ile Ala Ser Thr Thr Ile Met Val Pro Phe Gly
130 135 140
Leu Ile Phe Ile Val Phe Ala Val His Phe Tyr Arg Ser Leu Val Ser
145 150 155 160
His Lys Thr Asp Arg Gln Phe Gln Glu Leu Asn Glu Leu Ala Glu Phe
165 170 175
Ala Arg Leu Gln Asp Gln Leu Asp His Arg Gly Asp His Pro Leu Thr
180 185 190
Pro Gly Ser His Tyr Ala
195

<210> 11
<211> 2512
<212> DNA
<213> Homo sapiens

<400> 11
atagggtcg agcggctgcc cgggcaggtc tcatgcctca gcctccggag tagtattttt 60
agtagagatg gtgtttacca tgtgggccag gctggctctg aactcctggc ctcaagtgat 120

ccacccgcct	cggcctccca	gagtgtctggg	attacaggca	tgagccactg	cacccagcct	180
tgtttgtatt	ttgaattcca	aatggaaata	ccttcatgat	cttcccacta	ctaaagggtt	240
aaatctggca	ctgatacctc	tccaagaggg	ctatatacta	tgcaagtgtt	cccagcatgt	300
ttcacaagaa	aattcttttt	tgaggatcat	ctcacagaac	ttgggatctt	tgcaaatgt	360
attgtgaaat	ccaggccaga	ggaaccccat	gttccttcca	cactgatatt	ccacaatgga	420
ggcaagaaag	gagctagagt	cacttccctc	cttttgtctg	aacagcctcc	actctataat	480
cctgaccaca	aagcttactt	cccagagtct	gggtgggccc	agaggtgtgg	aagagagaat	540
ggaggacagg	agagccaaat	ggcacattgc	agcaaaagac	tcttgccctc	ggctgaaacc	600
ctctgatctt	ctgttacagg	ttaaagactg	ggacaaatac	ggtttaatgc	cccagggttct	660
tcggtaccat	gtggtcgcc	gccaccagct	gcttctggaa	aacctgaaat	tgatctcaaa	720
tgctacttcc	ctccaaggag	agccaatagt	catctccgtc	tctcagagca	cggtgtatat	780
aaacaataag	gctaagatca	tatccagtga	tatcatcagt	actaatggga	ttgttcatat	840
catagacaaa	ttgctatctc	ccaaaaattt	gcttatcact	cccaaagaca	actctggaag	900
aattctgcaa	aatcttacga	ctttggcaac	aaacaatggc	tacatcaa	ttagcactt	960
aatacaggac	tcaggtttgc	tgagtgtcat	caccgatccc	atccacaccc	cagtcaactt	1020
cttctggccc	accgaccaag	ccctccatgc	cctacctgct	gaacaacagg	acttctgtt	1080
caaccaagac	aacaaggaca	agctgaagga	gtatttgaag	tttcatgtga	tacgagatgc	1140
caaggtttta	gctgtggatc	ttcccacatc	cactgcctgg	aagaccctgc	aaggttcaga	1200
gctgagtgtg	aaatgtggag	ctggcaggga	catcgtgtac	ctctttctga	atggccaaac	1260
ctgcagaatt	gtgcagcgcg	agctcttgtt	tgacctgggt	gtggcctacg	gcattgactg	1320
tctgctgatt	gatccccacc	tggggggccc	ctgtgacacc	tttactactt	tcgatgcctc	1380
gggggagtg	gggagctgtg	tcaatactcc	cagctgcccc	aggtggagta	aaccaaaagg	1440
tgtgaagcag	aagtgtctct	acaacctgcc	cttcaagagg	aacctggaag	gctgccggga	1500
gcggtgcagc	ctggtgatac	agatccccag	gtgctgcaag	ggctacttcg	ggcgagactg	1560
tcaggcctgc	cctggaggac	cagttgcccc	gtgtaataac	cggggtgtct	gccttgatca	1620
gtactcggcc	accggagagt	gtaaatgcaa	caccggcttc	aatgggacgg	cgtgtgagat	1680
gtgctggccg	gggagatttg	ggcctgattg	tctgccctgt	ggctgctcag	accacggaca	1740
gtgcgatgat	ggcatcacgg	gtcccgggca	gtgcctctgt	gaaacggggg	ggacaggccc	1800
ctcgtgtgac	actcaggcag	ttttgtctgc	agtgtgtacg	cctccttggt	ctgctcatgc	1860
cacctgtaag	gagaacaaca	cgtgtgagtg	taacctggat	tatgaagggtg	acggaatcac	1920
atgcacagtt	gtggatttct	gcaaacagga	caacgggggc	tgtgcaaagg	tggccagatg	1980
ctcccagaag	ggcacgaagg	tctcctgcag	ctgccagaag	ggatacaaag	gggacgggca	2040
cagctgcaca	gagatagacc	cctgtgcaga	cggccttaac	ggaggggtgtc	acgagcacgc	2100
cacctgtaag	atgacaggcc	cgggcaagca	caagtgtgag	tgtaaaagtc	actatgtcgg	2160
agatgggctg	aactgtgagc	cggagcagct	gcccattgac	cgtgtcttac	aggacaatgg	2220
gcagtgccat	gcagacgcca	aatgtgtcga	cctccacttc	caggatacca	ctgttggggg	2280
gttccatcta	cgctccccac	tgggccaagta	taagctgacc	tttgacaaag	ccagagaggc	2340
ctgtgccaac	gaagctgcga	ccatggcaac	ctacaaccag	ctctcctatg	cccagaagac	2400
ctggatttcc	tttaccagg	aataaagcct	ttgatgccag	gacccagact	caaggagaat	2460
ctgaatctct	gctctcctgc	ttgctgggtca	tgtggccttg	atatcaagcc	ac	2512

<210> 12

<211> 669

<212> PRT

<213> Homo sapiens

<400> 12

Met	Glu	Ala	Arg	Lys	Glu	Leu	Glu	Ser	Leu	Pro	Pro	Phe	Cys	Leu	Asn
1					5					10				15	

Ser	Leu	His	Ser	Ile	Ile	Leu	Thr	Thr	Lys	Leu	Thr	Ser	Gln	Ser	Leu
			20					25					30		

Gly	Gly	Pro	Arg	Gly	Val	Glu	Glu	Arg	Met	Glu	Asp	Arg	Arg	Ala	Lys
		35					40					45			

Trp	His	Ile	Ala	Ala	Lys	Asp	Ser	Cys	Leu	Trp	Leu	Lys	Pro	Ser	Asp
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

50	55	60
Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln		
65	70	75 80
Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn		
	85	90 95
Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val		
	100	105 110
Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile		
	115	120 125
Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp		
	130	135 140
Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser		
	145	150 155 160
Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr		
	165	170 175
Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile		
	180	185 190
Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln		
	195	200 205
Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln		
	210	215 220
Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg		
	225	230 235 240
Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys		
	245	250 255
Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp		
	260	265 270
Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg		
	275	280 285
Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu		
	290	295 300
Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp		
	305	310 315 320
Ala Ser Gly Glu Cys Gly Ser Cys Val Asn Thr Pro Ser Cys Pro Arg		
	325	330 335
Trp Ser Lys Pro Lys Gly Val Lys Gln Lys Cys Leu Tyr Asn Leu Pro		
	340	345 350
Phe Lys Arg Asn Leu Glu Gly Cys Arg Glu Arg Cys Ser Leu Val Ile		
	355	360 365

Gln Ile Pro Arg Cys Cys Lys Gly Tyr Phe Gly Arg Asp Cys Gln Ala
 370 375 380
 Cys Pro Gly Gly Pro Val Ala Pro Cys Asn Asn Arg Gly Val Cys Leu
 385 390 395 400
 Asp Gln Tyr Ser Ala Thr Gly Glu Cys Lys Cys Asn Thr Gly Phe Asn
 405 410 415
 Gly Thr Ala Cys Glu Met Cys Trp Pro Gly Arg Phe Gly Pro Asp Cys
 420 425 430
 Leu Pro Cys Gly Cys Ser Asp His Gly Gln Cys Asp Asp Gly Ile Thr
 435 440 445
 Gly Ser Gly Gln Cys Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys
 450 455 460
 Asp Thr Gln Ala Val Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala
 465 470 475 480
 His Ala Thr Cys Lys Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr
 485 490 495
 Glu Gly Asp Gly Ile Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp
 500 505 510
 Asn Gly Gly Cys Ala Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys
 515 520 525
 Val Ser Cys Ser Cys Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys
 530 535 540
 Thr Glu Ile Asp Pro Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu
 545 550 555 560
 His Ala Thr Cys Lys Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys
 565 570 575
 Lys Ser His Tyr Val Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu
 580 585 590
 Pro Ile Asp Arg Cys Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala
 595 600 605
 Lys Cys Val Asp Leu His Phe Gln Asp Thr Thr Val Gly Val Phe His
 610 615 620
 Leu Arg Ser Pro Leu Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg
 625 630 635 640
 Glu Ala Cys Ala Asn Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu
 645 650 655
 Ser Tyr Ala Gln Lys Thr Trp Tyr Ser Phe Thr Lys Glu
 660 665

<210> 13
 <211> 1624
 <212> DNA
 <213> Homo sapiens

<400> 13
 ctcatgcctc agcctccgga gtagtatttt tagtagagat ggtgtttacc atgtggggcca 60
 ggctgggtctc gaactcctgg cctcaagtga tccacccgcc tcggcctccc agagtgtctgg 120
 gattacaggc atgagccact gcacccagcc ttgtttgtat tttgaattcc aaatggaaat 180
 accttcatga tcttcccact actaaagggt taaatctggc actgatacct ctccaagagg 240
 gctatatact atgcagtgtt tcccagcatg tttcacaaga aaattctttt ttgaggatca 300
 tctcacagaa cttgggatct ttgcaacatg tattgtgaaa tccaggccag aggaacccca 360
 tgttccttcc acactgatat tccacaatgg aggcaagaaa ggagctagag tcaacttctc 420
 ccttttgtct gaacagcctc cactctataa tcctgaccac aaagcttact tcccagagtc 480
 tgggtggggc gagagggtgtg gaagagagaa tggaggacag gagagccaaa tggcacattg 540
 cagcaaaaga ctctgcctc tggctgaaac cctctgatct tctgttacag gttaaagact 600
 gggacaaata cggtttaatg ccccagggtt ttcggtagca tgtgggtgcc tggcaccagc 660
 tgcttctgga aaacctgaaa ttgatctcaa atgctacttc cctccaagga gagccaatag 720
 tcatctccgt ctctcagagc acgggtgtata taaacaataa ggctaagatc atatccagtg 780
 atatcatcag tactaatggg attgttcata tcatagacaa attgctatct cccaaaaatt 840
 tgcttatcac tcccaaagac aactctggaa gaattctgca aaatcttacg actttggcaa 900
 caaacaatgg ctacatcaaa tttagcaact taatacagga ctacaggttg ctgagtgtca 960
 tcaccgatcc catccacacc ccagtcactc tcttctggcc caccgaccaa gccctccatg 1020
 ccctacctgc tgaacaacag gacttctctg tcaaccaaga caacaaggac aagctgaagg 1080
 agtatttgaa gtttcatgtg atacgagatg ccaagggttt agctgtggat cttccacat 1140
 ccactgcctg gaagaccctg caaggttcag agctgagtgt gaaatgtgga gctggcaggg 1200
 acatcgggtga cctctttctg aatggccaaa cctgcagaat tgtgcagcgg gagctcttgt 1260
 ttgacctggg tgtggcctac ggcattgact gtctgtgat tgatcccacc ctggggggcc 1320
 gctgtgacac ctttactact ttcatgacct cgggggagtg tgggagctgt gtcaatactc 1380
 ccagctgccc aagggtggagt aaaccaaagg gtgtgaagca gaagtgtctc tacaacctgc 1440
 ccttcaagag gaacctggaa ggctgccggg agcgggtgcag cctgggtgata cagatcccca 1500
 gctgccctg gaggaccaga tgccccgtgt aataaccggg gtgtctgcct tgatcagtac 1560
 tcggccaccg gagagtgtaa atgcaacacc ggcttcaatg ggacggcgtg tgagatgtgc 1620
 tggc 1624

<210> 14
 <211> 381
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Glu Ala Arg Lys Glu Leu Glu Ser Leu Pro Pro Phe Cys Leu Asn
 1 5 10 15
 Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu
 20 25 30
 Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys
 35 40 45
 Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp
 50 55 60
 Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln
 65 70 75 80

Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn
 85 90 95
 Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val
 100 105 110
 Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile
 115 120 125
 Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp
 130 135 140
 Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser
 145 150 155 160
 Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr
 165 170 175
 Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile
 180 185 190
 Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln
 195 200 205
 Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln
 210 215 220
 Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg
 225 230 235 240
 Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys
 245 250 255
 Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp
 260 265 270
 Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg
 275 280 285
 Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu
 290 295 300
 Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp
 305 310 315 320
 Ala Ser Gly Glu Cys Gly Ser Cys Val Asn Thr Pro Ser Cys Pro Arg
 325 330 335
 Trp Ser Lys Pro Lys Gly Val Lys Gln Lys Cys Leu Tyr Asn Leu Pro
 340 345 350
 Phe Lys Arg Asn Leu Glu Gly Cys Arg Glu Arg Cys Ser Leu Val Ile
 355 360 365
 Gln Ile Pro Ser Leu Pro Trp Arg Thr Arg Cys Pro Val
 370 375 380

<210> 15
 <211> 2483
 <212> DNA
 <213> Homo sapiens

<400> 15
 ctcatgcctc agcctccgga gtagtatttt tagtagagat ggtgtttacc atgtgggcca 60
 ggctgggtctc gaactcctgg cctcaagtga tccacccgcc tcggcctccc agagtgtctg 120
 gattacaggc atgagccact gcacccagcc ttgtttgtat tttgaattcc aaatgggaat 180
 tccttcatga tcttcccact actaaagggt taaatctggc actgatacct ctccaagagg 240
 gctatatact atgcagtgtt tcccagcatg tttcacaaga aaattctttt ttgaggatca 300
 tctcacagaa cttgggatct ttgcaacatg tattgtgaaa tccaggccag aggaacccca 360
 tgttccttcc acactgatat tccacaatgg aggcaagaaa ggagctagag tcacttcttc 420
 ccttttgtct gaacagcctc cactctataa tcctgaccac aaagcttact tcccagagtc 480
 tgggtgggccc gagaggtgtg gaagagagaa tggaggacag gagagccaaa tggcacattg 540
 cagcaaaaga ctctgcctc tggctgaaac cctctgatct tctgttacag gttaaagact 600
 gggacaaata cggtttaatg ccccagggttc ttcgggtacca tgtggtcgcc tgccaccagc 660
 tgcttctgga aaacctgaaa ttgatctcaa atgctacttc cctccaagga gagccaatag 720
 tcatctccgt ctctcagagc acgggtgtata taaacaataa ggctaagatc atatccagtg 780
 atatcatcag tactaatggg attgttcata tcatagacaa attgctatct cccaaaaatt 840
 tgcttatcac tcccaaagac aactctggaa gaattctgca aaatcttacg actttggcaa 900
 caaacaatgg ctacatcaaa tttagcaact taatacagga ctacaggttg ctgagtgtca 960
 tcaccgatcc catccacacc ccagtcactc tcttctggcc caccgacca ggcctccatg 1020
 ccctacctgc tgaacaacag gacttctctg tcaaccaaga caacaaggac aagctgaagg 1080
 agtatttgaa gtttcatgtg atacgagatg ccaagggttt agctgtggat cttcccacat 1140
 ccactgcctg gaagaccctg caagggttcag agctgagtgt gaaatgtgga gctggcaggg 1200
 acatcgggtg cctctttctg aatggccaaa cctgcagaat tgtgcagcgg gagctcttgt 1260
 ttgacctggg tgtggcctac ggcattgact gtctgctgat tgatcccacc ctggggggcc 1320
 gctgtgacac ctttactact ttcatgacct cgggggagtg tgggagctgt gtcaatactc 1380
 ccagctgccc aagggtggagt aaaccaaaagg gtgtgaagca gaagtgtctc tacaacctgc 1440
 ccttcaagag gaacctggaa ggctgccggg agcgatgcag cctggtgata cagatcccca 1500
 ggtgtgcaa gggctacttc gggcgagact gtcaggcctg cctggagga ccagatgccc 1560
 cgtgtaataa cgggggtgtc tgccttgatc agtactcggc caccggagag tgtaaatgca 1620
 acaccggctt caatgggacg gcgtgtgaga tgtgctggcc ggggagattt gggcctgatt 1680
 gtctgccctg tggctgctca gaccacggac agtgcgatga tggcatcacg ggctccgggc 1740
 agtgccctct tgaaacgggg tggacaggcc cctcgtgtga cactcaggca gttttgtctg 1800
 cagtgtgtac gcctccttgt tctgctcatg ccacctgtaa ggagaacaac acgtgtgagt 1860
 gtaacctgga ttatgaagg gacggaatca catgcacagt tgtggatttc tgcaaacagg 1920
 acaacggggg ctgtgcaaa ggtggccagat gctcccagaa gggcacgaag gtctcctgca 1980
 gctgccagaa gggatacaaa ggggacgggc acagctgcac agagatagac ccctgtgcag 2040
 acggccttaa cggagggtgt cagcagcacg ccacctgtaa gatgacaggc ccgggcaagc 2100
 acaagtgtga gtgtaaaagt cactatgtcg gagtgggct gaactgtgag ccggagcagc 2160
 tgcccattga ccgctgctta caggacaatg ggcagtgccca tgcagacgcc aaatgtgtcg 2220
 acctccactt ccaggatacc actgttgggg tgttccatct acgctcccca ctgggccagt 2280
 ataagctgac ctttgacaaa gccagagagg cctgtgccaa cgaagctgcg accatggcaa 2340
 cctacaacca gctctcctat gccagaaga cctggtattc ctttaccag gaataaagcc 2400
 tttgatgcca ggaccagac tcaaggagaa tctgaatctc tgctctcctg cttgctggtc 2460
 atgtggcctt gatatcaagc cac 2483

<210> 16
 <211> 669
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Glu Ala Arg Lys Glu Leu Glu Ser Leu Pro Pro Phe Cys Leu Asn
 1 5 10 15

Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu
 20 25 30
 Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys
 35 40 45
 Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp
 50 55 60
 Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln
 65 70 75 80
 Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn
 85 90 95
 Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val
 100 105 110
 Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile
 115 120 125
 Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp
 130 135 140
 Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser
 145 150 155 160
 Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr
 165 170 175
 Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile
 180 185 190
 Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln
 195 200 205
 Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln
 210 215 220
 Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg
 225 230 235 240
 Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys
 245 250 255
 Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp
 260 265 270
 Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg
 275 280 285
 Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu
 290 295 300
 Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp
 305 310 315 320

Ala Ser Gly Glu Cys Gly Ser Cys Val Asn Thr Pro Ser Cys Pro Arg
 325 330 335
 Trp Ser Lys Pro Lys Gly Val Lys Gln Lys Cys Leu Tyr Asn Leu Pro
 340 345 350
 Phe Lys Arg Asn Leu Glu Gly Cys Arg Glu Arg Cys Ser Leu Val Ile
 355 360 365
 Gln Ile Pro Arg Cys Cys Lys Gly Tyr Phe Gly Arg Asp Cys Gln Ala
 370 375 380
 Cys Pro Gly Gly Pro Asp Ala Pro Cys Asn Asn Arg Gly Val Cys Leu
 385 390 395 400
 Asp Gln Tyr Ser Ala Thr Gly Glu Cys Lys Cys Asn Thr Gly Phe Asn
 405 410 415
 Gly Thr Ala Cys Glu Met Cys Trp Pro Gly Arg Phe Gly Pro Asp Cys
 420 425 430
 Leu Pro Cys Gly Cys Ser Asp His Gly Gln Cys Asp Asp Gly Ile Thr
 435 440 445
 Gly Ser Gly Gln Cys Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys
 450 455 460
 Asp Thr Gln Ala Val Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala
 465 470 475 480
 His Ala Thr Cys Lys Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr
 485 490 495
 Glu Gly Asp Gly Ile Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp
 500 505 510
 Asn Gly Gly Cys Ala Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys
 515 520 525
 Val Ser Cys Ser Cys Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys
 530 535 540
 Thr Glu Ile Asp Pro Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu
 545 550 555 560
 His Ala Thr Cys Lys Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys
 565 570 575
 Lys Ser His Tyr Val Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu
 580 585 590
 Pro Ile Asp Arg Cys Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala
 595 600 605
 Lys Cys Val Asp Leu His Phe Gln Asp Thr Thr Val Gly Val Phe His
 610 615 620
 Leu Arg Ser Pro Leu Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg

625

630

635

640

Glu Ala Cys Ala Asn Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu
645 650 655

Ser Tyr Ala Gln Lys Thr Trp Tyr Ser Phe Thr Lys Glu
660 665

<210> 17

<211> 3625

<212> DNA

<213> Homo sapiens

<400> 17

```

ctcatgcctc agcctccgga gtagtatttt tagtagagat ggtgtttacc atgtgggcca 60
ggctgggtctc gaactcctgg cctcaagtga tccacccgcc tcggcctccc agagtgtctg 120
gattacaggc atgagccact gcacccagcc ttgtttgtat tttgaattcc aaatggaaat 180
accttcatga tcttcccact actaaagggt taaatctggc actgatacct ctccaagagg 240
gctatatact atgcagtgtt tcccagcatg tttcacaaga aaattctttt ttgaggatca 300
tctcacagaa cttgggatct ttgcaacatg tattgtgaaa tccaggccag aggaaccca 360
tgttccttcc aactgatata tccacaatgg aggcaagaaa ggagctagag tcaacttctc 420
ccttttgtct gaacagcctc cactctataa tcctgaccac aaagcttact tcccagagtc 480
tgggtgggccc gagagggtgt gaagagagaa tggaggacag gagagccaaa tggcacattg 540
cagcaaaaga ctctgcctc tggctgaaac cctctgatct tctgttacag gttaaagact 600
gggacaaata cggtttaatg ccccagggtt tcgggtacca tgtggctgcc tgccaccagc 660
tgcttctgga aaacctgaaa ttgatctcaa atgctacttc cctccaagga gagccaatag 720
tcatctccgt ctctcagagc acgggtgtata taaataataa ggctaagatc atatccagt 780
atatcatcag tactaatggg attgttcata tcatagacaa attgctatct cccaaaaatt 840
tgcttatcac tcccaaagac aactctggaa gaattctgca aaatcttacg actttggcaa 900
caaacaatgg ctacatcaaa tttagcaact taatacagga ctacaggtttg ctgagtgtca 960
tcaccgatcc catccacacc ccagtcactc tcttctggcc caccgaccaa gccctccatg 1020
ccctacctgc tgaacaacag gacttctctg tcaaccaaga caacaaggac aagctgaagg 1080
agtatttgaa gtttcatgtg atacgagatg ccaagggttt agctgtggat cttcccacat 1140
ccactgcctg gaagaccctg caagggttcag agctgagtgt gaaatgtgga gctggcaggg 1200
acatcgggtga cctctttctg aatggccaaa cctgcagaat tgtgcagcgg gagctcttgt 1260
ttgacctggg tgtggcctac ggcattgact gtctgctgat tgatcccacc ctggggggcc 1320
gctgtgacac ctttactact ttcatgacct cgggggagtg tgggagctgt gtcaatactc 1380
ccagctgccc aagggtggag aaaccaaagg gtgtgaagca gaagtgtctc tacaacctgc 1440
ccttcaagag gaacctggaa ggctgccggg agcgggtgcag cctgggtgata cagatcccca 1500
ggtgctgcaa aggtactctc gggcgagact gtcagggtga ggggtgctct tccccctcg 1560
caactctaaa agtgtctgcc ttgatcagta ctcgccacc ggagagtgtg aatgcaacac 1620
cggcttcaat gggacggcgt gtgagatgtg ctggccgggg agatttgggc ctgattgtct 1680
gccctgtggc tgcctagacc acggacagtg cgatgatggc atcacgggct ccgggcagtg 1740
cctctgtgaa acggggtgga caggccctc gtgtgacact caggcagttt tgctgcagt 1800
gtgtacgctt ccttggtctg ctcatgccac ctgtaaggag aacaacacgt gtgagtgtaa 1860
cctggattat gaagggtgac gaatcacatg cacagttgtg gatttctgca aacaggacaa 1920
cgggggctgt gcaaagggtg ccagatgctc ccagaagggc acgaaggctc cctgcagctg 1980
ccagaaggga tacaaggggg acgggcacag ctgcacagag atagaccctt gtgcagacgg 2040
ccttaacgga ggggtgtcac agcacgccac ctgtaagatg acaggcccg gcaagcacia 2100
gtgtgagtgt aaaagtcact atgtcggaga tgggctgaac tgtgagccgg agcagctgcc 2160
cattgaccgc tgcttacagg acaatgggca gtgccatgca gacgccaaat gtgtcgacct 2220
ccacttccag gataccactg ttgggggtgt ccatctacgc tccccactgg gccagtataa 2280
gtgacctttt gacaaagcca gagaggcctg tgccaacgaa gctgcgacca tggcaacct 2340
caaccagctc tctatgccc agaaggccaa gtaccacctg tgctcagcag gctggctgga 2400
gaccgggcgg gttgcctacc ccacagcctt cgcctcccag aactgtggct ctgggtgtgt 2460
tgggatagtg gactatggac ctagacccaa caagagtga atgtgggatg tcttctgcta 2520
tcggatgaaa ggaagtgtct gcctattcca acagctcagc tcgaggccgt gcatttctag 2580

```

```

aacacctgac tgacctgtcc atccgcggca cctctttgt gccacagaac agtgggctgg 2640
gggagaatga gaccttgtct gggcgggaca tcgagcacca cctcgccaat gtcagcatgt 2700
ttttctacaa tgaccttgtc aatggcacca cctgcaaac gaggtggga agcaagctgc 2760
tcatcactgc cagccaggac cactccaac cgacggagac caggtttggt gatggaagag 2820
ccattctgca gtgggacatc tttgcctcca atgggatcat tcatgtcatt tccaggcctt 2880
taaaagcacc cctgcccccc gtgaccttga cccacactgg cttgggagca gggatcttct 2940
ttgccatcat cctgggtgact ggggctggtg ccttggtgctg ttactcctac tttcggataa 3000
accggagaac aatcggtctc cagcattttg agtcggaaga ggacattaat gttgcagctc 3060
ttggcaagca gcagcctgag aatatctcga accccttgta tgagagcaca acctcagctc 3120
ccccagaacc ttcctacgac cccttcacgg actctgaaga acggcagctt gagggcaatg 3180
acccttgag gacactgtga gggcctggac gggagatgcc agccatcact cactgccacc 3240
tgggccatca actgtgaatt ctgagcacca gttgcctttt aggaacgtaa agtcctttaa 3300
gcactcagaa gccatacctc atctctctgg ctgatctggg ggttggttct gtgggtgaga 3360
gatgtgttgc tgtgccacc cagtacagct tctctctctg accctttggc tcttcttctt 3420
ttgtactctt cagctggcac ctgctccatt ctgccctaca tgatgggtaa ctgtgatctt 3480
tcttccctgt tagattgtaa gcctccgtct ttgtatccca gccctagcc cagtgcctga 3540
cacaggaact gtgcacaata aaggtttatg gaacagaaac aaagtcaaaa aaaaaaaaaa 3600
aaaaaaaaa aaaaaaaaaa aaaac                                     3625

```

<210> 18
 <211> 545
 <212> PRT
 <213> Homo sapiens

```

<400> 18
Met Glu Ala Arg Lys Glu Leu Glu Ser Leu Pro Pro Phe Cys Leu Asn
  1             5             10             15

Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu
      20             25             30

Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys
      35             40             45

Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp
      50             55             60

Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln
      65             70             75             80

Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn
      85             90             95

Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val
      100            105            110

Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile
      115            120            125

Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp
      130            135            140

Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser
      145            150            155            160

Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr
      165            170            175

```

Ile	Lys	Phe	Ser	Asn	Leu	Ile	Gln	Asp	Ser	Gly	Leu	Leu	Ser	Val	Ile	180	185	190
Thr	Asp	Pro	Ile	His	Thr	Pro	Val	Thr	Leu	Phe	Trp	Pro	Thr	Asp	Gln	195	200	205
Ala	Leu	His	Ala	Leu	Pro	Ala	Glu	Gln	Gln	Asp	Phe	Leu	Phe	Asn	Gln	210	215	220
Asp	Asn	Lys	Asp	Lys	Leu	Lys	Glu	Tyr	Leu	Lys	Phe	His	Val	Ile	Arg	225	230	235 240
Asp	Ala	Lys	Val	Leu	Ala	Val	Asp	Leu	Pro	Thr	Ser	Thr	Ala	Trp	Lys	245	250	255
Thr	Leu	Gln	Gly	Ser	Glu	Leu	Ser	Val	Lys	Cys	Gly	Ala	Gly	Arg	Asp	260	265	270
Ile	Gly	Asp	Leu	Phe	Leu	Asn	Gly	Gln	Thr	Cys	Arg	Ile	Val	Gln	Arg	275	280	285
Glu	Leu	Leu	Phe	Asp	Leu	Gly	Val	Ala	Tyr	Gly	Ile	Asp	Cys	Leu	Leu	290	295	300
Ile	Asp	Pro	Thr	Leu	Gly	Gly	Arg	Cys	Asp	Thr	Phe	Thr	Thr	Phe	Asp	305	310	315 320
Ala	Ser	Gly	Glu	Cys	Gly	Ser	Cys	Val	Asn	Thr	Pro	Ser	Cys	Pro	Arg	325	330	335
Trp	Ser	Lys	Pro	Lys	Gly	Val	Lys	Gln	Lys	Cys	Leu	Tyr	Asn	Leu	Pro	340	345	350
Phe	Lys	Arg	Asn	Leu	Glu	Gly	Cys	Arg	Glu	Arg	Cys	Ser	Leu	Val	Ile	355	360	365
Gln	Ile	Pro	Arg	Cys	Cys	Lys	Gly	Tyr	Phe	Gly	Arg	Asp	Cys	Gln	Gly	370	375	380
Glu	Gly	Ala	Ser	Ser	Pro	Leu	Ala	Thr	Leu	Lys	Val	Ser	Ala	Leu	Ile	385	390	395 400
Ser	Thr	Arg	Pro	Pro	Glu	Ser	Val	Asn	Ala	Thr	Pro	Ala	Ser	Met	Gly	405	410	415
Arg	Arg	Val	Arg	Cys	Ala	Gly	Arg	Gly	Asp	Leu	Gly	Leu	Ile	Val	Cys	420	425	430
Pro	Val	Ala	Ala	Gln	Thr	Thr	Asp	Ser	Ala	Met	Met	Ala	Ser	Arg	Ala	435	440	445
Pro	Gly	Ser	Ala	Ser	Val	Lys	Arg	Gly	Gly	Gln	Ala	Pro	Arg	Val	Thr	450	455	460
Leu	Arg	Gln	Phe	Cys	Leu	Gln	Cys	Val	Arg	Leu	Leu	Val	Leu	Leu	Met	465	470	475 480

Pro Pro Val Arg Arg Thr Thr Arg Val Ser Val Thr Trp Ile Met Lys
 485 490 495

Val Thr Glu Ser His Ala Gln Leu Trp Ile Ser Ala Asn Arg Thr Thr
 500 505 510

Gly Ala Val Gln Arg Trp Pro Asp Ala Pro Arg Arg Ala Arg Arg Ser
 515 520 525

Pro Ala Ala Ala Arg Arg Asp Thr Lys Gly Thr Gly Thr Ala Ala Gln
 530 535 540

Arg
 545

<210> 19
 <211> 1577
 <212> DNA
 <213> Homo sapiens

<400> 19
 ctcattgcctc agcctccgga gtagtatttt tagtagagat ggtggtttacc atgtggggcca 60
 ggctgggtctc gaactcctgg cctcaagtga tccacccgcc tcggcctccc agagtgtctgg 120
 gattacaggc atgagccact gcacccagcc ttgtttgtat ttgaattcc aaatggaaat 180
 accttcattga tcttcccact actaaagggt taaatctggc actgatacct ctccaagagg 240
 gctatatact atgcagtgtt tcccagcatg tttcacaaga aaattctttt ttgaggatca 300
 tctcacagaa cttgggatct ttgcaacatg tattgtgaaa tccaggccag aggaacccca 360
 tgttccttcc aactgatata tccacaatgg aggcaagaaa ggagctagag tcacttcctc 420
 ccttttgtct gaacagcctc cactctataa tcctgaccac aaagcttact tcccagagtc 480
 tgggtggggcc gagaggtgtg gaagagagaa tggaggacag gagagccaaa tggcacattg 540
 cagcaaaaaga ctctgcctc tggctgaaac cctctgatct tctgttacag gttaaagact 600
 gggacaaaata cgggtttaatg ccccagggtc ttcgggtacca tgtgggtcgcc tgccaccagc 660
 tgcttcttga aaacctgaaa ttgatctcaa atgctacttc cctccaagga gagccaatag 720
 tcatctccgt ctctcagagc acggtgtata taaacaataa ggctaagatc atatccagt 780
 atatcatcag tactaatggg attgttcata tcatagacaa attgctatct cccaaaaatt 840
 tgcttatcac tcccaaagac aactctggaa gaattctgca aaatcttacg actttggcaa 900
 caaacaatgg ctacatcaaa tttagcaact taatacagga ctcaggtttg ctgagtgtca 960
 tcaccgatcc catccacacc ccagtcactc tcttctggcc caccgaccaa gccctccatg 1020
 ccctacctgc tgaacaacag gacttctgt tcaaccaaga caacaaggac aagctgaagg 1080
 agtatttgaa gtttcatgtg atacgagatg caagggtttt agctgtggat cttcccat 1140
 ccactgcctg gaagacctg caaggttcag agctgagtgt gaaatgtgga gctggcaggg 1200
 acatcggtga cctctttctg aatggccaaa cctgcagaat tgtgcagcgg gagctcttgt 1260
 ttgacctggg tgtggcctac ggcattgact gtctgtgat tgatcccacc ctggggggcc 1320
 gctgtgacac ctttactact ttcgatgcct cggctcagtc taaaaacaac agtgtagtaa 1380
 gagaacctta agccaaagaa tggccctcat gatccagtgt ggacctgtt gtgaaacat 1440
 taagggcctg tctcagcaa gactaggacc cagaagacct gagggccaaa tgatgtagtt 1500
 ctttagactc agaagcaaca ggcattctact tagccccaca cagcctggaa tattcttgtt 1560
 tatccaccca tctactc 1577

<210> 20
 <211> 334
 <212> PRT
 <213> Homo sapiens

<400> 20
 Met Glu Ala Arg Lys Glu Leu Glu Ser Leu Pro Pro Phe Cys Leu Asn

1	5	10	15
Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu	20	25	30
Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys	35	40	45
Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp	50	55	60
Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln	65	70	75
Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn	85	90	95
Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val	100	105	110
Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile	115	120	125
Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp	130	135	140
Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser	145	150	155
Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr	165	170	175
Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile	180	185	190
Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln	195	200	205
Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln	210	215	220
Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg	225	230	235
Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys	245	250	255
Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp	260	265	270
Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg	275	280	285
Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu	290	295	300
Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp	305	310	315
			320

Ala Ser Val Ser Pro Lys Asn Asn Ser Val Val Arg Glu Pro
 325 330

<210> 21
 <211> 2070
 <212> DNA
 <213> Homo sapiens

<400> 21
 cttggctagt aattctctac tggttttatg attgctaata tattcaaaac caaaacaaac 60
 tttattatgt tatatatata aaaatgtctg tttttttt aaacctagcc ttatttagtc 120
 cttttcgggt tctaggcaga aaaaattaaa aagaagagaa gcacagtctt tgggactctg 180
 cacgttgcac acagctcctc cctagatgag gtagaccaca aaattctgga agcaaagtaa 240
 gaatgttggt ttcactttta tttgatttat gtttattgtg ttaaaatgag taatttgtga 300
 acaatttata tttatcattt atataattac ataatttaca ttagttttta gagtgggtta 360
 tttcttcttg aaattagtta attgccatgg tctgttcacg tattgccttt tttcagtgcc 420
 atattaaaga ccttttgatg cagtaagtaa tttctttatt ggcttttcca ggaaagctct 480
 ctctgagttg acaacttggt tacgagaacg actttttcgc tggcaacaaa ttgagaagat 540
 ctgtggcttt cagatagccc ataactcagg actccccagc ctgacctctt ccctttattc 600
 tgatcacagc tgggtggtga tgcccagagt ctccattcca ccctatccaa ttgctggagg 660
 agttgatgac ttagatgaag acacaccccc aatagtgtca caatttcccg ggaccatggc 720
 taaacctcct ggatcattag ccagaagcag cagcctgtgc cgttcacgcc gcagcattgt 780
 gccgtcctcg cctcagcctc agcgagctca gcttgctcca cagccccccc acccgtcaca 840
 ccctcggcac cctcaccacc cgcaacacac accacactcc ttgccttccc ctgatccaga 900
 tatcctctca gtgtcaagtt gccctgcgct ttatcgaaat gaagaggagg aagaggccat 960
 ttacttctct gctgaaaagc aatgggaagt gccagacaca gcttcagaat gtgactcctt 1020
 aaattcttcc attggaagga aacagtctcc tcctttaagc ctcgagatat accaaacatt 1080
 atctccgcga aagatatcaa gagatgaggt gtccctagag gattcctccc gaggggattc 1140
 gcttgtaact gtggatgtgt cttgggggtt tcccgaactg gtaggtctga cagaaactaa 1200
 gagtatgac ttcagtcctg caagcaaagt gtacaatggc attttggaga aatcctgtag 1260
 catgaaccag ctttccagtg gcatcccggg gcctaaacct cgccacacat catgttcttc 1320
 agctggcaac gacagtaaac cagttcagga agccccaagt gttgccagaa taagcagcat 1380
 cccacatgac ctttgtcata atggagagaa aagcaaaaag ccatcaaaaa tcaaaagcct 1440
 ttttaagaag aaatctaagt gaactggctg acttgatgga atcatgttca agtggcatct 1500
 gtaaaactatt atccccacc ctccactccc cacctttttt tggtttaatt ttaggaatgt 1560
 aactccattg gggctttcca ggccggatgc catagtggaa catccagaag ggcaactgcc 1620
 tactgtctgc ttatttaagt gactatatat aatcaattca tcaagccagt tattactgaa 1680
 aaatcattga aatgagacag ttacagtc tttctgccta tttatttctg ctttgttctc 1740
 agtgatgtat atgcaacatt ttgttgaaag ccacgatgga cttacaagct ttaatggact 1800
 cgtaagccag catgggcttg caaaaatttc ttgtttacca gagcatcttc ttatctttcc 1860
 acagagctat ttacatcctg gactatataa cttaaaagaa gtaaaacgta attgcactac 1920
 tgttttccag actggaaaaa aaaaaaatct ctgcaagtga aactgtatag agtttataaa 1980
 atgactatgg ataggggact gttttcactt ttagatcaaa atgggttttt aagtaaaacc 2040
 tagggtttct aattgacttg attctggaaa 2070

<210> 22
 <211> 280
 <212> PRT
 <213> Homo sapiens

<400> 22
 Met Pro Arg Val Ser Ile Pro Pro Tyr Pro Ile Ala Gly Gly Val Asp
 1 5 10 15

Asp Leu Asp Glu Asp Thr Pro Pro Ile Val Ser Gln Phe Pro Gly Thr

20					25					30					
Met	Ala	Lys	Pro	Pro	Gly	Ser	Leu	Ala	Arg	Ser	Ser	Ser	Leu	Cys	Arg
	35						40					45			
Ser	Arg	Arg	Ser	Ile	Val	Pro	Ser	Ser	Pro	Gln	Pro	Gln	Arg	Ala	Gln
	50					55					60				
Leu	Ala	Pro	His	Ala	Pro	His	Pro	Ser	His	Pro	Arg	His	Pro	His	His
	65				70					75					80
Pro	Gln	His	Thr	Pro	His	Ser	Leu	Pro	Ser	Pro	Asp	Pro	Asp	Ile	Leu
				85					90					95	
Ser	Val	Ser	Ser	Cys	Pro	Ala	Leu	Tyr	Arg	Asn	Glu	Glu	Glu	Glu	Glu
			100					105					110		
Ala	Ile	Tyr	Phe	Ser	Ala	Glu	Lys	Gln	Trp	Glu	Val	Pro	Asp	Thr	Ala
	115						120					125			
Ser	Glu	Cys	Asp	Ser	Leu	Asn	Ser	Ser	Ile	Gly	Arg	Lys	Gln	Ser	Pro
	130					135					140				
Pro	Leu	Ser	Leu	Glu	Ile	Tyr	Gln	Thr	Leu	Ser	Pro	Arg	Lys	Ile	Ser
	145				150					155					160
Arg	Asp	Glu	Val	Ser	Leu	Glu	Asp	Ser	Ser	Arg	Gly	Asp	Ser	Pro	Val
				165					170					175	
Thr	Val	Asp	Val	Ser	Trp	Gly	Ser	Pro	Asp	Cys	Val	Gly	Leu	Thr	Glu
		180						185					190		
Thr	Lys	Ser	Met	Ile	Phe	Ser	Pro	Ala	Ser	Lys	Val	Tyr	Asn	Gly	Ile
	195						200					205			
Leu	Glu	Lys	Ser	Cys	Ser	Met	Asn	Gln	Leu	Ser	Ser	Gly	Ile	Pro	Val
	210					215					220				
Pro	Lys	Pro	Arg	His	Thr	Ser	Cys	Ser	Ser	Ala	Gly	Asn	Asp	Ser	Lys
	225				230					235					240
Pro	Val	Gln	Glu	Ala	Pro	Ser	Val	Ala	Arg	Ile	Ser	Ser	Ile	Pro	His
				245					250					255	
Asp	Leu	Cys	His	Asn	Gly	Glu	Lys	Ser	Lys	Lys	Pro	Ser	Lys	Ile	Lys
		260						265					270		
Ser	Leu	Phe	Lys	Lys	Lys	Ser	Lys								
	275						280								

<210> 23

<211> 1347

<212> DNA

<213> Homo sapiens

<400> 23

aagtcaactgg gagggagcat gcagggaaga agtcaaggca gccctggaat tctactccgt 60

```

gctcaataaa aacaaaacgt gaagaagcaa tacatcatgc aaacgaaata atgaccggaa 120
gtgggcgcat ctagttagaa tgaagtgact ttcgtaagga gtcaatgttc gcgaactgaa 180
acatgagttc aacctccttg tgccgtctct ggggtgtttg cgcgtgtgta aataccggcc 240
cgttttcccc agcatggccc gcacagcctg cagagcacct cagcgtcatc atcacatgag 300
accatggggg gaccaccgtg aagaagagac ccaatgtcaa caagatccct tgtccaacta 360
catcaagttc agggactgtg tcaagtttga tattgtgggc tacgggtggc ttgggatgcc 420
cctaaccaaa ttggggcaag aggaagccct ttaccaggca ctgaagaatg tgcaccctga 480
cctccacgtc tacaagaagg agtttccaga agacttccat ctcgctaaac atgaccaagt 540
tctgccaatc atgatgtatg ccaactgtgg ttacagtatc aatgggagaa ttataatgtg 600
tttcaacaaa ggcagccatg gctttgataa tgtcctcatg gatataaaga ccatcttcag 660
agatttcggg ccagatttca agaggaatcg cctggccgag ccttttaaca gcatccacat 720
ctaccattc gtgtgtaagc tctggggagt ccccccaaa cccacaacgg ctccctggca 780
gtcaccaggg aaatgctcat gagctcttat gaccagcagc caggtgagac acaaaagcag 840
ctgccagaaa actgtcagca gagtctgctc tgtcctgaga tagaaaagaa tcaaaaagt 900
gtctcatggg ggggaggagg gaattcaagc agaacaatcc tgtttccag cagctttgga 960
gccccaggaa caagattcca atagctccaa acagatagca cgggaggtag ggaatccctc 1020
gacctgctgg taacatttga catagtgcct tttaggcaaa gggaagttgc tctatagaga 1080
aagtggggct gtaatccttc cggtcctaag gaaatcactg tgtacagact gcccccaaga 1140
tgcccccttc agatacggaa atctgccctc cttcaatagc acagaaagct tttcatagt 1200
gaggagcaaa accctgctgt tcaactgata ctgaaaaaag gagaggggag agtttgaaac 1260
gagactgcaa attttcaaga cttcaaacc cttcaatttg ggtaatacaa aggaagaata 1320
aatcatctc agaatttgc tttgcct 1347

```

<210> 24

<211> 182

<212> PRT

<213> Homo sapiens

<400> 24

Met Ala Arg Thr Ala Cys Arg Ala Pro Gln Arg His His His Met Arg
1 5 10 15

Pro Trp Gly Asp His Arg Glu Glu Glu Thr Gln Cys Gln Gln Asp Pro
20 25 30

Leu Ser Asn Tyr Ile Lys Phe Arg Asp Cys Val Lys Phe Asp Ile Val
35 40 45

Gly Tyr Gly Gly Phe Gly Met Pro Leu Thr Lys Leu Gly Gln Glu Glu
50 55 60

Ala Leu Tyr Gln Ala Leu Lys Asn Val His Pro Asp Leu His Val Tyr
65 70 75 80

Lys Lys Glu Phe Pro Glu Asp Phe His Leu Ala Lys His Asp Gln Val
85 90 95

Leu Pro Ile Met Met Tyr Ala Asn Cys Gly Tyr Ser Ile Asn Gly Arg
100 105 110

Ile Ile Met Cys Phe Asn Lys Gly Ser His Gly Phe Asp Asn Val Leu
115 120 125

Met Asp Ile Lys Thr Ile Phe Arg Asp Phe Gly Pro Asp Phe Lys Arg
130 135 140

Asn Arg Leu Ala Glu Pro Phe Asn Ser Ile His Ile Tyr Pro Phe Val

145

150

155

160

Cys Lys Leu Leu Gly Val Thr Pro Lys Pro Thr Thr Ala Pro Trp Gln
 165 170 175

Ser Pro Arg Lys Cys Ser
 180

<210> 25

<211> 1683

<212> DNA

<213> Homo sapiens

<400> 25

```

tcattttgcc atctctgaag ttggaataca ccttacaatc actggaatgt cacgggtctcg 60
ttggcagcat ttttctgctt agtagcccat aaaataatag cacatcttgt aactaacagt 120
gtttagatg ctatgagatc ctggggaagc ccagaatcta actccacctt gtctgactcc 180
aaagaccaca tattttctac gtctttggac tggggtacaa atgtagacaa ctcgagcttt 240
gctgattgtg agaaaggtat gagaaatggc cctgatggaa ttttcttctt gtacttgcag 300
gggaacaaag cagcatcatc ccactattcc agggaggtgc taaatatgag ggtgaggctt 360
gtcaagcggg ccctgggtgga gtccctacact caccggaaca gcaaggagac agagcggagg 420
gagaacatcg ataccgtatt gaactgggtc accaaggaag aatttgactt tgtgactctg 480
tactacagag agccagataa catgggacat cgattcaggc cagaggcaga gaacaggaag 540
ttgatgattc agcaaataca caggaccatc ggggatctgg tgggagccac tgagaagcac 600
agcctgcaga gcacctcagc gtcacatca catgagacca tggggtgacc accgtgaaga 660
agagacccaa tgtcaacaag atcccttgtc caactacatc aagttcaggg actgtgtcaa 720
gtttgatatt gtgggctacg gtggctttgg gatgccccta accaaattgg ggcaagagga 780
agccctttac caggcactga agaattgtgc ccctgacctc caggtctaca agaaggagt 840
tccagaagac ttccatctcg ctaaactatga ccaagttctg ccaatcatga tgtatgcaa 900
ctgtgggttac agtatcaatg ggagaattat aatgtgtttc aacaaaggca gccatggctt 960
tgataatgtc ctcatggata taaagaccat cttcagagat ttcgggccag atttcaagag 1020
gaatcgcttg gccgagcctt ttaacagcat ccacatctac ccattcgtgt gtaagctcct 1080
gggagtcacc cccaaaccca caacggctcc ctggcagtc cccaggaaat gctcatgagc 1140
tcttatgacc agcagccagg tgagacacaa aagcagctgc cagaaaactg tcagcagagt 1200
ctgctctgtc ctgagataga aaagaatcaa aaagtgggtc catggtgggg aggagggaat 1260
tcaagcagaa caatcctgtt tcccagcagc tttggagccc caggaacaag attccaatag 1320
ctccaaacag atagcacggg aggtagggaa tccctcgacc tgctggtaac atttgacata 1380
gtgcctttta ggcaaaggga agttgctcta tagagaaagt cgggctgtaa tccctccggg 1440
cctaaggaaa tcaactgtgt cagactgccc ccaagatgcc ccttcagat acggaaatct 1500
gccctccttc aatagcacag aaagcttttc atagtggagg agcaaaaccc tgctgttcac 1560
tcgatactga aaaaaggaga ggggagagtt tgaaacgaga ctgcaaattt tcaagacttc 1620
aaaccccttc aatttgggta atacaaagga agaataaaat catctcagaa tttgctgttg 1680
cct 1683

```

<210> 26

<211> 171

<212> PRT

<213> Homo sapiens

<400> 26

Met Arg Ser Trp Gly Ser Pro Glu Ser Asn Ser Thr Leu Ser Asp Ser
 1 5 10 15

Lys Asp His Ile Phe Ser Thr Ser Leu Asp Trp Gly Thr Asn Val Asp
 20 25 30

Asn Ser Ser Phe Ala Asp Cys Glu Lys Gly Met Arg Asn Gly Pro Asp
 35 40 45
 Gly Ile Phe Phe Leu Tyr Leu Gln Gly Asn Lys Ala Ala Ser Ser His
 50 55 60
 Tyr Ser Arg Glu Val Leu Asn Met Arg Val Arg Leu Val Lys Arg Ser
 65 70 75 80
 Leu Val Glu Ser Tyr Thr His Pro Asn Ser Lys Glu Thr Glu Arg Arg
 85 90 95
 Glu Asn Ile Asp Thr Val Leu Asn Trp Phe Thr Lys Glu Glu Phe Asp
 100 105 110
 Phe Val Thr Leu Tyr Tyr Arg Glu Pro Asp Asn Met Gly His Arg Phe
 115 120 125
 Arg Pro Glu Ala Glu Asn Arg Lys Leu Met Ile Gln Gln Ile Asn Arg
 130 135 140
 Thr Ile Gly Tyr Leu Val Gly Ala Thr Glu Lys His Ser Leu Gln Ser
 145 150 155 160
 Thr Ser Ala Ser Ser Ser His Glu Thr Met Gly
 165 170

<210> 27
 <211> 2912
 <212> DNA
 <213> Homo sapiens

<400> 27
 cagctttaac agccccggcg tctttgtcgt agaaaacaca acagtggaat ttttagagggg 60
 ctccgagagg caaactttta agattccagg ccctttgatg gctgatttca tcttcaagac 120
 caggtagact gcagccaaag acagcgtggt tcagttcttc tttaccagc ccatcagtc 180
 tcagtggaga caaactgact tctttccctg cactgtgacg tgtggaggag gttatcagct 240
 caattctgct gaatgtgtgg atatccgctt gaagagggtta gttcctgacc attattgtca 300
 ctactaccct gaaaatgtaa aacaaaaacc aaaactgaag gaatgcagca tggatccctg 360
 cccatcaagt gatggattta aagagataat gccctatgac cacttccaac ctcttccctg 420
 ctgggaacat aatccttggg ctgcatgttc cgtgtcctgt ggaggaggga ttcagagacg 480
 gagctttgtg tgtgttagagg aatccatgca tggagagata ttgcagggtg aagaatggaa 540
 gtgcatgtac gcacccaaac ccaaggttat gcaaacttgt aatctgtttg attgccccaa 600
 gtggattgcc atggagtggg ctacgtgcac agtgacttgt ggccgagggt tacggtaccg 660
 gggtgttctg tgtattaacc accgaggaga gcatgttggg ggctgcaatc cacaactgaa 720
 gttacacatc aaagaagaat gtgtcattcc catcccgtgt tataaacc aaagaaaaaag 780
 tccagtggaa gcaaaattgc cttggctgaa acaagcaca gaactagaag agaccagaat 840
 agcaacagaa gaaccaacgt tcattccaga accctgggtc gcctgcagta ccacgtgtgg 900
 gccgggtgtg cagggtccgtg aggtgaagtg ccgtgtgtct ctcacattca cgcagactga 960
 gactgagctg cccgaggaag agtgtgaagg ccccaagctg cccaccgaac ggccctgcct 1020
 cctggaagca tgtgatgaga gcccggcctc ccgagagcta gacatccctc tccctgagga 1080
 cagtgagacg acttacgact gggagtacgc tgggttcacc ccttgacag caacatgcgt 1140
 gggaggccat caagaagcca tagcagtgtg cttacatatc cagaccagc agacagtcaa 1200
 tgacagcttg tgtgatatgg tccaccgtcc tccagccatg agccaggcct gtaacacaga 1260
 gccctgtccc cccagggtggc atgtgggctc ttgggggccc tgctcagcta cctgtggagt 1320
 tgggaattcag acccgagatg tgtactgcct gcaccaggg gagaccctg cccctcctga 1380
 ggagtgccga gatgaaaagc cccatgcttt acaagcatgc aatcagtttg actgcccctc 1440

tggctggcac attgaagaat ggcagcagtg ttccaggact tgtggcgggg gaactcagaa 1500
 cagaagagtc acctgtcggc agctgctaac ggatggcagc tttttgaatc tctcagatga 1560
 attgtgccaa ggacccaagg catcgtctca caagtctgt gccaggacag actgtcctcc 1620
 acatttagct gtgggagact ggtcgaagtg ttctgtcagt tgtggtgttg gaatccagag 1680
 aagaaagcag gtgtgtcaaa ggctggcagc caaaggctcg cgcaccccc tcagtgcgat 1740
 gatgtgcagg gatctaccag ggttccctct tgtaagatct tgccagatgc ctgagtgcag 1800
 taaaatcaaa tcagagatga agacaaaact tggtagcagc ggtccgcaga tcctcagtgt 1860
 ccagagagtc tacattcaga caagggaaga gaagcgtatt aacctgacca ttggtagcag 1920
 agcctatattg ctgcccaca catccgtgat tattaagtgc ccagtgcgac gattccagaa 1980
 atctctgac cagtgggaga aggatggccg ttgcctgcag aactccaaac ggcttggcat 2040
 caccaagtca ggctcactaa aaatccacgg tcttgcctgc cccgacatcg gcgtgtaccg 2100
 gtgcattgca ggctctgcac aggaacagc tgtgctcaag ctcattggta ctgacaaccg 2160
 gctcatcgca cgcacagccc tcaggagcc tatgagggaa tatcctggga tggaccacag 2220
 cgaagccaat agtttgggag tcacatggca caaatgagg caaatgtgga ataacaaaaa 2280
 tgacctttat ctggatgatg accacattag taaccagcct ttcttgagag ctctgttagg 2340
 ccactgcagc aattctgcag gaagcaccaa ctctgggag ttgaagaata agcagtttga 2400
 agcagcagtt aaacaaggag catatagcat ggatacagcc cagtttgatg agctgataag 2460
 aaacatgagt cagctcatgg aaaccggaga ggtcagcgat gatcttgcgt cccagctgat 2520
 atatcagctg gtggccgaat tagccaaggc acagccaaca cacatgcagt ggcggggcat 2580
 ccaggaagag acacctctg ctgctcagct cagaggggaa acagggagtg tgtcccaaag 2640
 ctgcagtgca aaaaactcag gcaagctgac attcaagccg aaaggacctg ttctcatgag 2700
 gcaaagccaa cctccctcaa ttctatttaa taaaacaata aattccagga ttggaaatac 2760
 agtatacatt acaaaaagga cagaggtcat caatatactg tgtgacctta ttacccccag 2820
 tgaggccaca tatacatgga ccaaggatgg aaccttgta cagccctcag taaagtaagt 2880
 aaaataaaaa tgcagtattc atttttgcaa aa 2912

<210> 28

<211> 926

<212> PRT

<213> Homo sapiens

<400> 28

Met Ala Asp Phe Ile Phe Lys Thr Arg Tyr Thr Ala Ala Lys Asp Ser
 1 5 10 15

Val Val Gln Phe Phe Phe Tyr Gln Pro Ile Ser His Gln Trp Arg Gln
 20 25 30

Thr Asp Phe Phe Pro Cys Thr Val Thr Cys Gly Gly Gly Tyr Gln Leu
 35 40 45

Asn Ser Ala Glu Cys Val Asp Ile Arg Leu Lys Arg Val Val Pro Asp
 50 55 60

His Tyr Cys His Tyr Tyr Pro Glu Asn Val Lys Pro Lys Pro Lys Leu
 65 70 75 80

Lys Glu Cys Ser Met Asp Pro Cys Pro Ser Ser Asp Gly Phe Lys Glu
 85 90 95

Ile Met Pro Tyr Asp His Phe Gln Pro Leu Pro Arg Trp Glu His Asn
 100 105 110

Pro Trp Thr Ala Cys Ser Val Ser Cys Gly Gly Gly Ile Gln Arg Arg
 115 120 125

Ser Phe Val Cys Val Glu Glu Ser Met His Gly Glu Ile Leu Gln Val

130	135	140
Glu Glu Trp Lys Cys Met Tyr Ala Pro Lys Pro Lys Val Met Gln Thr 145 150 155 160		
Cys Asn Leu Phe Asp Cys Pro Lys Trp Ile Ala Met Glu Trp Ser Gln 165 170 175		
Cys Thr Val Thr Cys Gly Arg Gly Leu Arg Tyr Arg Val Val Leu Cys 180 185 190		
Ile Asn His Arg Gly Glu His Val Gly Gly Cys Asn Pro Gln Leu Lys 195 200 205		
Leu His Ile Lys Glu Glu Cys Val Ile Pro Ile Pro Cys Tyr Lys Pro 210 215 220		
Lys Glu Lys Ser Pro Val Glu Ala Lys Leu Pro Trp Leu Lys Gln Ala 225 230 235 240		
Gln Glu Leu Glu Glu Thr Arg Ile Ala Thr Glu Glu Pro Thr Phe Ile 245 250 255		
Pro Glu Pro Trp Ser Ala Cys Ser Thr Thr Cys Gly Pro Gly Val Gln 260 265 270		
Val Arg Glu Val Lys Cys Arg Val Leu Leu Thr Phe Thr Gln Thr Glu 275 280 285		
Thr Glu Leu Pro Glu Glu Glu Cys Glu Gly Pro Lys Leu Pro Thr Glu 290 295 300		
Arg Pro Cys Leu Leu Glu Ala Cys Asp Glu Ser Pro Ala Ser Arg Glu 305 310 315 320		
Leu Asp Ile Pro Leu Pro Glu Asp Ser Glu Thr Thr Tyr Asp Trp Glu 325 330 335		
Tyr Ala Gly Phe Thr Pro Cys Thr Ala Thr Cys Val Gly Gly His Gln 340 345 350		
Glu Ala Ile Ala Val Cys Leu His Ile Gln Thr Gln Gln Thr Val Asn 355 360 365		
Asp Ser Leu Cys Asp Met Val His Arg Pro Pro Ala Met Ser Gln Ala 370 375 380		
Cys Asn Thr Glu Pro Cys Pro Pro Arg Trp His Val Gly Ser Trp Gly 385 390 395 400		
Pro Cys Ser Ala Thr Cys Gly Val Gly Ile Gln Thr Arg Asp Val Tyr 405 410 415		
Cys Leu His Pro Gly Glu Thr Pro Ala Pro Pro Glu Glu Cys Arg Asp 420 425 430		
Glu Lys Pro His Ala Leu Gln Ala Cys Asn Gln Phe Asp Cys Pro Pro 435 440 445		

Gly Trp His Ile Glu Glu Trp Gln Gln Cys Ser Arg Thr Cys Gly Gly
 450 455 460
 Gly Thr Gln Asn Arg Arg Val Thr Cys Arg Gln Leu Leu Thr Asp Gly
 465 470 475 480
 Ser Phe Leu Asn Leu Ser Asp Glu Leu Cys Gln Gly Pro Lys Ala Ser
 485 490 495
 Ser His Lys Ser Cys Ala Arg Thr Asp Cys Pro Pro His Leu Ala Val
 500 505 510
 Gly Asp Trp Ser Lys Cys Ser Val Ser Cys Gly Val Gly Ile Gln Arg
 515 520 525
 Arg Lys Gln Val Cys Gln Arg Leu Ala Ala Lys Gly Arg Arg Ile Pro
 530 535 540
 Leu Ser Glu Met Met Cys Arg Asp Leu Pro Gly Phe Pro Leu Val Arg
 545 550 555 560
 Ser Cys Gln Met Pro Glu Cys Ser Lys Ile Lys Ser Glu Met Lys Thr
 565 570 575
 Lys Leu Gly Glu Gln Gly Pro Gln Ile Leu Ser Val Gln Arg Val Tyr
 580 585 590
 Ile Gln Thr Arg Glu Glu Lys Arg Ile Asn Leu Thr Ile Gly Ser Arg
 595 600 605
 Ala Tyr Leu Leu Pro Asn Thr Ser Val Ile Ile Lys Cys Pro Val Arg
 610 615 620
 Arg Phe Gln Lys Ser Leu Ile Gln Trp Glu Lys Asp Gly Arg Cys Leu
 625 630 635 640
 Gln Asn Ser Lys Arg Leu Gly Ile Thr Lys Ser Gly Ser Leu Lys Ile
 645 650 655
 His Gly Leu Ala Ala Pro Asp Ile Gly Val Tyr Arg Cys Ile Ala Gly
 660 665 670
 Ser Ala Gln Glu Thr Val Val Leu Lys Leu Ile Gly Thr Asp Asn Arg
 675 680 685
 Leu Ile Ala Arg Pro Ala Leu Arg Glu Pro Met Arg Glu Tyr Pro Gly
 690 695 700
 Met Asp His Ser Glu Ala Asn Ser Leu Gly Val Thr Trp His Lys Met
 705 710 715 720
 Arg Gln Met Trp Asn Asn Lys Asn Asp Leu Tyr Leu Asp Asp Asp His
 725 730 735
 Ile Ser Asn Gln Pro Phe Leu Arg Ala Leu Leu Gly His Cys Ser Asn
 740 745 750

Ser Ala Gly Ser Thr Asn Ser Trp Glu Leu Lys Asn Lys Gln Phe Glu
 755 760 765
 Ala Ala Val Lys Gln Gly Ala Tyr Ser Met Asp Thr Ala Gln Phe Asp
 770 775 780
 Glu Leu Ile Arg Asn Met Ser Gln Leu Met Glu Thr Gly Glu Val Ser
 785 790 795 800
 Asp Asp Leu Ala Ser Gln Leu Ile Tyr Gln Leu Val Ala Glu Leu Ala
 805 810 815
 Lys Ala Gln Pro Thr His Met Gln Trp Arg Gly Ile Gln Glu Glu Thr
 820 825 830
 Pro Pro Ala Ala Gln Leu Arg Gly Glu Thr Gly Ser Val Ser Gln Ser
 835 840 845
 Ser His Ala Lys Asn Ser Gly Lys Leu Thr Phe Lys Pro Lys Gly Pro
 850 855 860
 Val Leu Met Arg Gln Ser Gln Pro Pro Ser Ile Ser Phe Asn Lys Thr
 865 870 875 880
 Ile Asn Ser Arg Ile Gly Asn Thr Val Tyr Ile Thr Lys Arg Thr Glu
 885 890 895
 Val Ile Asn Ile Leu Cys Asp Leu Ile Thr Pro Ser Glu Ala Thr Tyr
 900 905 910
 Thr Trp Thr Lys Asp Gly Thr Leu Leu Gln Pro Ser Val Lys
 915 920 925

<210> 29
 <211> 3905
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1748..1749)
 <223> wherein n is g or a or t or c

<220>
 <221> misc_feature
 <222> (1790..1791)
 <223> wherein n is g or a or t or c

<400> 29
 ggatttgaga gctgaactt agccatacac cagatctacc tttggaccgc aaaagggacc 60
 cagtgttca tgaagctggt tttttttgtt ttgttttgtt ttttttccgt tgttttgttt 120
 cggctttacc aacctgactg ggtgtttttc aatataccacc attcagactt tcctcaacag 180
 cagaggatgt ggcagtggca aagacaaggg gatgggggga gacgaaaggg aaaggggcct 240
 gcatgaaaga ccatgtctgt ctctctgctg gtgccagttc cctgaacctc atcttgttgt 300
 tcagccccctt actgcagcct gccaggggct ccaactccatg gcttcacctc aggccagacc 360
 agcaccacgc ccggggggctc catccacttt ggctgcaacg ccgggtaccg cctggtggga 420
 cacagcatgg ccatctgtac ccggcacccc cagggtacc accgtgtggag cgaagccatc 480

cctctctgtc	aagctctttc	ctgtgggctt	cctgaggccc	ccaagaatgg	aatgggtgtt	540
ggcaaggagt	acacagtggg	aaccaaggcc	gtgtacagct	gcagtgaagg	ctaccacctc	600
caggcaggcg	ctgaggccac	tgcagagtgt	ctggacacag	gcctatggag	caaccgcaat	660
gtcccaccac	agtgtgtccc	tgtgacttgt	cctgatgtca	gtagcatcag	cgtggagcat	720
ggccgatgga	ggcttatctt	tgagacacag	tatcagttcc	aggcccagct	gatgtctatc	780
tgtgaccctg	gctactacta	tactggccaa	agggtcaccc	gctgtcaggg	caatggcaaa	840
tggagcctcg	gggactctac	gcccacctgc	cgaatcatct	cctgtggaga	gctcccgtatt	900
ccccccaatg	gccaccgcat	cggaaactgt	tctgtctacg	gggcaacagc	catcttctcc	960
tgcaattccg	gatacacact	ggtgggctcc	aggggtgcgtg	agtgcattggc	caatgggctc	1020
tggagtggct	ctgaagtccg	ctgccttgct	ggacactgtg	ggactcctga	gcccattgtc	1080
aacggacaca	tcaatgggga	gaactacagc	taccggggca	gtgtgggtga	ccaatgcaat	1140
gctggcttcc	gcctgatcgg	catgtctgtg	cgcatctgcc	agcaggatca	tcactggctc	1200
ggcaagaccc	ctttctgtgt	gccaattacc	tgtggacacc	caggcaaccc	tgtcaacggc	1260
ctcactcagg	gtaaccagtt	taacctcaac	gatgtgggtca	agtttgtttg	caaccctggg	1320
tatatggctg	agggggctgc	taggtcccaa	tgccctggcca	gcggggcaatg	gagtgcacatg	1380
ctgcccacct	gcagaatcat	caactgtaca	gatcctggac	accaagaaaa	tagtgttctg	1440
cagggtccacg	ccagcggccc	gcacaggttc	agcttcggca	ccactgtgtc	ttaccgggtc	1500
nnaaccacgg	ctttctacct	ctgggcaacc	ccagtgtctca	gctgccaggg	agatggcaca	1560
tgggaccgtc	cccgcctcca	gtgtctcttg	gtgtcctgtg	gccatccggg	ctccccgcct	1620
cactcccaga	tgtctggaga	cagttatact	gtgggagcag	tggtgcggta	cagctgcac	1680
ggcaagcgtg	ctctggtggg	aaacagcacc	cgcatgtgtg	ggctggatgg	acactggact	1740
ggctccctcc	ctcactgtct	aggaaccagc	gtgggagttt	gcggtgaccc	tgggatcccg	1800
gctcatggca	tccgtttggg	ggacagcttt	gatccaggca	ctgtgatgcg	cttcagctgt	1860
gaagctggcc	acgtgtctcg	gggatcgta	gagcgcacct	gtcaagccaa	tggctcgtgg	1920
agcggctcgc	agcctgagtg	tggagtgatc	tcttgtggga	accctgggac	tccaagtaat	1980
gcccagattg	tgttcagtga	tggcctgggt	ttctccagct	ctatcgtcta	tgagtgcgg	2040
gaaggatact	acgccacagg	cctgctcagc	cgctcagct	cggccaatgg	tacctggaca	2100
ggcagtgacc	ctgagtgcc	cgtcataaac	tgtggtgacc	ctgggattcc	agccaatggc	2160
cttcggctgg	gcaatgactt	cagggtacaac	aaaactgtga	catatcagtg	tgtccctggc	2220
tatatgatgg	agtcacatag	agtatctgtg	ctgagctgca	ccaaggaccg	gacatggaat	2280
ggaaccaagc	ccgtctgcaa	agctctcatg	tgcaagccac	ctccgctcat	ccccaatggg	2340
aagggtggtg	ggtctgactt	catgtggggc	tcaagtgtga	cttatgcctg	cctggagggg	2400
taccagctct	ccctgcccgc	ggtgttcacc	tgtgagggaa	atgggtcctg	gaccggagag	2460
ctgcctcagt	gtttccctgt	gttctgcggg	gacccgtgtg	tcccgctccg	tgggaggaga	2520
gaggaccgag	gcttctccta	cagggtcatct	gtctccttct	cctgccatcc	ccctctggtg	2580
ctggtgggct	ctccacgcag	gttttgccag	tcagatggga	catggagtgg	caccagcccc	2640
agctgcatag	atccgaccct	gaccacgtgt	gcggaccctg	gtgtgccaca	gtttgggata	2700
cagaacaatt	ctcagggtca	ccagggtgga	agcacagtcc	tcttccgttg	tcaaaaaggc	2760
tacctgcttc	agggctccac	caccaggacc	tgccctccaa	acctgacctg	gagtggaaac	2820
ccacctgact	gtgtcccca	ccactgcagg	cagccagaga	cgccaacgca	tgccaacgtc	2880
ggggccctgg	atttgccctc	catgggttac	acgctcatta	ctcctgccag	gagggcttct	2940
ccctcaaggg	tggctccgag	caccgcacct	gcaaggcgga	tggcagctgg	acaggcaagc	3000
cgcccatctg	cctggcagag	gtccggccca	gtgggagacc	catcaacact	gcccgggagc	3060
caccgctcac	ccaagccttg	attcctgggg	atgtttttgc	caagaattcc	ctgtggaaag	3120
gggcctatga	ataccagggg	aagaagcagc	cagccatgct	cagagtgact	ggcttccaag	3180
ttgccaacag	caagggtcaat	gccaccatga	tcgaccacag	tggcgtggag	ctgcacttgg	3240
ctggaactta	caagaaagaa	gattttcatc	tcctactcca	ggtgtaccag	attacagggc	3300
ctgtggagat	ctttatgaat	aagttcaaag	atgatcactg	ggcttttagat	ggccatgtct	3360
cgtcagagtc	ctccggagcc	accttcatct	accaaggctc	tgtcaagggc	caaggctttg	3420
ggcagttcgg	ctttcaaaga	ctggacctca	ggctgctgga	gtcagacccc	gagtccattg	3480
gccgccactt	tgcttccaac	agcagctcag	tggcagccgc	gatcctgggtg	cctttcatcg	3540
ccctcattat	tgcgggcttc	gtgctctatc	tctacaagca	caggagaaga	cccaaagttc	3600
ctttcaatgg	ctatgctggc	cacgagaaca	ccaatgttcg	ggccacattt	gagaacccaa	3660
tgtacgaccg	caacatccag	cccacagaca	tcattggccag	cgaggcggag	ttcacagtca	3720
gcacagtgtg	cacagcagta	tagccacccg	gcctggccgc	tttttttgct	aggttgaact	3780
ggtactccag	cagccgccga	agctggactg	tactgtgcc	atctcagctc	actgcaacct	3840
ccctgectga	ttccctgcc	tcagcctgcc	gagtgcctgc	gattgcaggc	gcgcaccgcc	3900
acnnt						3905

<210> 30
 <211> 883
 <212> PRT
 <213> Homo sapiens

<400> 30

Met	Ala	Ile	Cys	Thr	Arg	His	Pro	Gln	Gly	Tyr	His	Leu	Trp	Ser	Glu
1				5					10					15	
Ala	Ile	Pro	Leu	Cys	Gln	Ala	Leu	Ser	Cys	Gly	Leu	Pro	Glu	Ala	Pro
			20					25					30		
Lys	Asn	Gly	Met	Val	Phe	Gly	Lys	Glu	Tyr	Thr	Val	Gly	Thr	Lys	Ala
		35					40					45			
Val	Tyr	Ser	Cys	Ser	Glu	Gly	Tyr	His	Leu	Gln	Ala	Gly	Ala	Glu	Ala
	50					55					60				
Thr	Ala	Glu	Cys	Leu	Asp	Thr	Gly	Leu	Trp	Ser	Asn	Arg	Asn	Val	Pro
	65				70					75					80
Pro	Gln	Cys	Val	Pro	Val	Thr	Cys	Pro	Asp	Val	Ser	Ser	Ile	Ser	Val
				85					90					95	
Glu	His	Gly	Arg	Trp	Arg	Leu	Ile	Phe	Glu	Thr	Gln	Tyr	Gln	Phe	Gln
			100					105					110		
Ala	Gln	Leu	Met	Leu	Ile	Cys	Asp	Pro	Gly	Tyr	Tyr	Tyr	Thr	Gly	Gln
		115					120					125			
Arg	Val	Ile	Arg	Cys	Gln	Ala	Asn	Gly	Lys	Trp	Ser	Leu	Gly	Asp	Ser
	130					135					140				
Thr	Pro	Thr	Cys	Arg	Ile	Ile	Ser	Cys	Gly	Glu	Leu	Pro	Ile	Pro	Pro
145					150					155				160	
Asn	Gly	His	Arg	Ile	Gly	Thr	Leu	Ser	Val	Tyr	Gly	Ala	Thr	Ala	Ile
				165					170					175	
Phe	Ser	Cys	Asn	Ser	Gly	Tyr	Thr	Leu	Val	Gly	Ser	Arg	Val	Arg	Glu
			180					185					190		
Cys	Met	Ala	Asn	Gly	Leu	Trp	Ser	Gly	Ser	Glu	Val	Arg	Cys	Leu	Ala
		195					200					205			
Gly	His	Cys	Gly	Thr	Pro	Glu	Pro	Ile	Val	Asn	Gly	His	Ile	Asn	Gly
	210					215					220				
Glu	Asn	Tyr	Ser	Tyr	Arg	Gly	Ser	Val	Val	Tyr	Gln	Cys	Asn	Ala	Gly
225					230					235				240	
Phe	Arg	Leu	Ile	Gly	Met	Ser	Val	Arg	Ile	Cys	Gln	Gln	Asp	His	His
				245					250					255	
Trp	Ser	Gly	Lys	Thr	Pro	Phe	Cys	Val	Pro	Ile	Thr	Cys	Gly	His	Pro
			260					265					270		

Gly Asn Pro Val Asn Gly Leu Thr Gln Gly Asn Gln Phe Asn Leu Asn
 275 280 285
 Asp Val Val Lys Phe Val Cys Asn Pro Gly Tyr Met Ala Glu Gly Ala
 290 295 300
 Ala Arg Ser Gln Cys Leu Ala Ser Gly Gln Trp Ser Asp Met Leu Pro
 305 310 315 320
 Thr Cys Arg Ile Ile Asn Cys Thr Asp Pro Gly His Gln Glu Asn Ser
 325 330 335
 Val Arg Gln Val His Ala Ser Gly Pro His Arg Phe Ser Phe Gly Thr
 340 345 350
 Thr Val Ser Tyr Arg Cys Thr Thr Ala Ser Thr Ser Trp Ala Thr Pro
 355 360 365
 Val Leu Ser Cys Gln Gly Asp Gly Thr Trp Asp Arg Pro Arg Pro Gln
 370 375 380
 Cys Leu Leu Val Ser Cys Gly His Pro Gly Ser Pro Pro His Ser Gln
 385 390 395 400
 Met Ser Gly Asp Ser Tyr Thr Val Gly Ala Val Val Arg Tyr Ser Cys
 405 410 415
 Ile Gly Lys Arg Thr Leu Val Gly Asn Ser Thr Arg Met Cys Gly Leu
 420 425 430
 Asp Gly His Trp Thr Gly Ser Leu Pro His Cys Ser Gly Thr Ser Val
 435 440 445
 Gly Val Cys Gly Asp Pro Gly Ile Pro Ala His Gly Ile Arg Leu Gly
 450 455 460
 Asp Ser Phe Asp Pro Gly Thr Val Met Arg Phe Ser Cys Glu Ala Gly
 465 470 475 480
 His Val Leu Arg Gly Ser Ser Glu Arg Thr Cys Gln Ala Asn Gly Ser
 485 490 495
 Trp Ser Gly Ser Gln Pro Glu Cys Gly Val Ile Ser Cys Gly Asn Pro
 500 505 510
 Gly Thr Pro Ser Asn Ala Arg Val Val Phe Ser Asp Gly Leu Val Phe
 515 520 525
 Ser Ser Ser Ile Val Tyr Glu Cys Arg Glu Gly Tyr Tyr Ala Thr Gly
 530 535 540
 Leu Leu Ser Arg His Cys Ser Val Asn Gly Thr Trp Thr Gly Ser Asp
 545 550 555 560
 Pro Glu Cys Leu Val Ile Asn Cys Gly Asp Pro Gly Ile Pro Ala Asn
 565 570 575

Gly Leu Arg Leu Gly Asn Asp Phe Arg Tyr Asn Lys Thr Val Thr Tyr
 580 585 590
 Gln Cys Val Pro Gly Tyr Met Met Glu Ser His Arg Val Ser Val Leu
 595 600 605
 Ser Cys Thr Lys Asp Arg Thr Trp Asn Gly Thr Lys Pro Val Cys Lys
 610 615 620
 Ala Leu Met Cys Lys Pro Pro Pro Leu Ile Pro Asn Gly Lys Val Val
 625 630 635 640
 Gly Ser Asp Phe Met Trp Gly Ser Ser Val Thr Tyr Ala Cys Leu Glu
 645 650 655
 Gly Tyr Gln Leu Ser Leu Pro Ala Val Phe Thr Cys Glu Gly Asn Gly
 660 665 670
 Ser Trp Thr Gly Glu Leu Pro Gln Cys Phe Pro Val Phe Cys Gly Asp
 675 680 685
 Pro Gly Val Pro Ser Arg Gly Arg Arg Glu Asp Arg Gly Phe Ser Tyr
 690 695 700
 Arg Ser Ser Val Ser Phe Ser Cys His Pro Pro Leu Val Leu Val Gly
 705 710 715 720
 Ser Pro Arg Arg Phe Cys Gln Ser Asp Gly Thr Trp Ser Gly Thr Gln
 725 730 735
 Pro Ser Cys Ile Asp Pro Thr Leu Thr Thr Cys Ala Asp Pro Gly Val
 740 745 750
 Pro Gln Phe Gly Ile Gln Asn Asn Ser Gln Gly Tyr Gln Val Gly Ser
 755 760 765
 Thr Val Leu Phe Arg Cys Gln Lys Gly Tyr Leu Leu Gln Gly Ser Thr
 770 775 780
 Thr Arg Thr Cys Leu Pro Asn Leu Thr Trp Ser Gly Thr Pro Pro Asp
 785 790 795 800
 Cys Val Pro His His Cys Arg Gln Pro Glu Thr Pro Thr His Ala Asn
 805 810 815
 Val Gly Ala Leu Asp Leu Pro Ser Met Gly Tyr Thr Leu Ile Thr Pro
 820 825 830
 Ala Arg Arg Ala Ser Pro Ser Arg Val Ala Pro Ser Thr Ala Pro Ala
 835 840 845
 Arg Arg Met Ala Ala Gly Gln Ala Ser Arg Pro Ser Ala Trp Gln Arg
 850 855 860
 Ser Gly Pro Val Gly Asp Pro Ser Thr Leu Pro Gly Ser His Arg Ser
 865 870 875 880
 Pro Lys Pro

<210> 31
 <211> 3896
 <212> DNA
 <213> Homo sapiens

<400> 31

```

ggatttgaga gcctgaactt agccatacac cagatctacc tttggaccgc aaaagggacc 60
cagtgtctca tgaagctggg tttttttgtt ttgttttgtt ttttttccgt tgttttgttt 120
cggctttacc aacctgactg ggtgtttttc aatatccacc attcagactt tcctcaacag 180
cagaggatgt ggcagtggca aagacaaggg gatgggggga gacgaaaggg aaaggggcct 240
gcatgaaaga ccatgtctgt ctctctgctg gtgccagttc cctgaacctc atcttgttgt 300
tcagccccctt actgcagcct gcccagggct ccaactccatg gcttcacctt aggccagacc 360
agcaccacgc ccggggggctc catccacttt ggctgcaacg ccggctaccg cctgggtggga 420
cacagcatgg ccatctgtac ccggcacccc cagggtacc accgtgtggag cgaagccatc 480
cctctctgtc aagctctttc ctgtgggctt cctgaggccc ccaagaatgg aatgggtgtt 540
ggcaaggagt acacagtggg aaccaaggcc gtgtacagct gcagtgaagg ctaccacctc 600
caggcaggcg ctgaggccac tgcagagtgt ctggacacag gcctatggag caaccgcaat 660
gtcccaccac agtgtgtccc tgtgacttgt cctgatgtca gtagcatcag cgtggagcat 720
ggccgatgga ggcttatctt tgagacacag tatcagttcc agggccagct gatgtctatc 780
tgtgaccctg gctactacta tactggccaa agggctatcc gctgtcaggc caatggcaaa 840
tggagcctcg gggactctac gccacactgc cgaatcatct cctgtggaga gctcccgatt 900
cccccaatg gccaccgcac cggaacactg tctgtctacg gggcaacagc catcttctcc 960
tgcaattccg gatacacact ggtgggctcc aggggtcgtg agtgcattgg caatgggctc 1020
tggagtggct ctgaagtccg ctgccttgct ggacactgtg ggactcctga gccattgtc 1080
aacggacaca tcaatgggga gaactacagc taccggggca gtgtgggtga ccaatgcaat 1140
gctggcttcc gcctgatcgg catgtctgtg cgcactgcc agcaggatca tcaactggctc 1200
ggcaagaccc ctttctgtgt gccattacc tgtggacacc caggcaaccc tgtcaacggc 1260
ctcactcagg gtaaccagtt taacctcaac gatgtggta agtttgtttg caacctggg 1320
tatatggctg agggggctgc taggtcccaa tgctggcca gcgggcaatg gtagtgcattg 1380
ctgcccacct gcagaatcat caactgtaca gatcctggac accaagaaaa tagtgttcgt 1440
cagggtccacg ccagcggccc gcacagggtc agcttcggca ccaactgtgtc ttaccgggtc 1500
aaccacggct tctacctcct gggcacccca gtgtcagct gccagggaga tggcacatgg 1560
gaccgtcccc gccccagtg tctcttgggt tctgtggcc atccgggctc ccgcctcac 1620
tcccagatgt ctggagacag ttatactgtg ggagcagtg tgcggtacag ctgcatcggc 1680
aagcgtactc tgggtggaaa cagcacccgc atgtgtgggc tggatggaca ctggactggc 1740
tccctccctc actgtccagg aaccagcgtg ggagtgtgc gtgacctgg gatcccggct 1800
catggcatcc gtttggggga cagctttgat acaggcactg tgatgcgctt cagctgtgaa 1860
gctggccacg tgctccgggg atcgtcagag cgcacctgtc aagccaatgg ctctgtgagc 1920
ggctcgcagc ctgagtgtgg agtgatctct tgtgggaacc ctgggactcc aagtaatgcc 1980
cgagtttgtt tcagtgtagg cctggttttc tccagctcta tctctatga gtgccgggaa 2040
ggatactacg ccacaggcct gctcagccgt cactgctcgg tcaatggtac ctggacaggc 2100
agtgacctg agtgccctgt cataaactgt ggtgacctg ggattccagc caatggcctt 2160
cggctgggca atgacttcag gtacaacaaa actgtgacat atcagtgtgt ccctggctat 2220
atgatggagt cacatagagt atctgtgctg agctgcacca aggaccggac atggaatgga 2280
accaagcccg tctgcaaagc tctcatgtgc aagccacctc cgtcatccc caatgggaag 2340
gtgggtgggg ctgacttcat gtggggctca agtgtgactt atgcctgcct ggaggggtac 2400
cagctctccc tgcccgcggt gtccacctgt gagggaaatg ggtcctggac cggagagctg 2460
cctcagtgtt tccctgtgtt ctgcggggat cctgggtgtc cgtcccgtgg gaggagagag 2520
gaccgaggct tctcctacag gtcactgtgc tcttctcct gccatcccc tctgggtgtg 2580
gtgggctctc cagcagggtt ttgccagtca gatgggacat ggagtggcac ccagcccagc 2640
tgcatagatc cgacctgac cagtggtgcg gacctgggtg tgccacagtt tgggatacag 2700
aacaattctc agggctacca ggttgggaag acagtcctct tccgttgtca aaaaggctac 2760
ctgcttcagg gctccaccac caggacctgc ctccaaacc tgacctggag tggaaaccca 2820
cctgactgtg tccccacca ctgcaggcag ccagagacgc caacgcatgc caacgtcggg 2880
gccctggatt tgccctccat gggctacacg ctctactc ctgccaggag ggcttctccc 2940

```

tcaaggggtgg ctccgagcac cgcacctgca aggcggatgg cagctggaca ggcaagccgc 3000
 ccattctgcct ggaggtccgg cccagtggga gacccatcaa cactgcccgg gagccaccgc 3060
 tcaccaagc cttgattcct ggggatgttt ttgccaagaa ttccctgtgg aaaggggcct 3120
 atgaatacca ggggaagaag cagccagcca tgctcagagt gactggcttc caagttgcca 3180
 acagcaaggt caatgccacc atgatcgacc acagtggcgt ggagctgcac ttggctggaa 3240
 cttacaagaa agaagatttt catctcctac tccaggtgta ccagattaca gggcctgtgg 3300
 agatctttat gaataagttc aaagatgatc actgggcttt agatggccat gtctcgtcag 3360
 agtcctccgg agccaccttc atctaccaag gctctgtcaa gggccaaggc tttgggcagt 3420
 tcggctttca aagactggac ctcaggtgctc tggagtcaga ccccgagtcc attggccgcc 3480
 actttgcttc caacagcagc tcagtggcag ccgcgactct ggtgcctttc atcgccctca 3540
 ttattgcggg cttcgtgctc tatctctaca agcacaggag aagacccaaa gttcctttca 3600
 atggctatgc tggccacgag aacaccaatg ttccgggccac atttgagaac ccaatgtacg 3660
 accgcaacat ccagcccaca gacatcatgg ccagcgaggc ggagttcaca gtcagcacag 3720
 tgtgcacagc agtatagcca cccggcctgg ccgctttttt tgctaggttg aactggtact 3780
 ccagcagccg ccgaagctgg actgtactgc tgccatctca gctcactgca acctccctgc 3840
 ctgattcccc tgccctcagcc tgccgagtgc ctgcgattgc aggcgcgcac cgccac 3896

<210> 32

<211> 882

<212> PRT

<213> Homo sapiens

<400> 32

Met Ala Ile Cys Thr Arg His Pro Gln Gly Tyr His Leu Trp Ser Glu
 1 5 10 15

Ala Ile Pro Leu Cys Gln Ala Leu Ser Cys Gly Leu Pro Glu Ala Pro
 20 25 30

Lys Asn Gly Met Val Phe Gly Lys Glu Tyr Thr Val Gly Thr Lys Ala
 35 40 45

Val Tyr Ser Cys Ser Glu Gly Tyr His Leu Gln Ala Gly Ala Glu Ala
 50 55 60

Thr Ala Glu Cys Leu Asp Thr Gly Leu Trp Ser Asn Arg Asn Val Pro
 65 70 75 80

Pro Gln Cys Val Pro Val Thr Cys Pro Asp Val Ser Ser Ile Ser Val
 85 90 95

Glu His Gly Arg Trp Arg Leu Ile Phe Glu Thr Gln Tyr Gln Phe Gln
 100 105 110

Ala Gln Leu Met Leu Ile Cys Asp Pro Gly Tyr Tyr Tyr Thr Gly Gln
 115 120 125

Arg Val Ile Arg Cys Gln Ala Asn Gly Lys Trp Ser Leu Gly Asp Ser
 130 135 140

Thr Pro Thr Cys Arg Ile Ile Ser Cys Gly Glu Leu Pro Ile Pro Pro
 145 150 155 160

Asn Gly His Arg Ile Gly Thr Leu Ser Val Tyr Gly Ala Thr Ala Ile
 165 170 175

Phe Ser Cys Asn Ser Gly Tyr Thr Leu Val Gly Ser Arg Val Arg Glu

180	185	190
Cys Met Ala Asn Gly Leu Trp Ser Gly Ser Glu Val Arg Cys Leu Ala 195 200 205		
Gly His Cys Gly Thr Pro Glu Pro Ile Val Asn Gly His Ile Asn Gly 210 215 220		
Glu Asn Tyr Ser Tyr Arg Gly Ser Val Val Tyr Gln Cys Asn Ala Gly 225 230 235 240		
Phe Arg Leu Ile Gly Met Ser Val Arg Ile Cys Gln Gln Asp His His 245 250 255		
Trp Ser Gly Lys Thr Pro Phe Cys Val Pro Ile Thr Cys Gly His Pro 260 265 270		
Gly Asn Pro Val Asn Gly Leu Thr Gln Gly Asn Gln Phe Asn Leu Asn 275 280 285		
Asp Val Val Lys Phe Val Cys Asn Pro Gly Tyr Met Ala Glu Gly Ala 290 295 300		
Ala Arg Ser Gln Cys Leu Ala Ser Gly Gln Trp Ser Asp Met Leu Pro 305 310 315 320		
Thr Cys Arg Ile Ile Asn Cys Thr Asp Pro Gly His Gln Glu Asn Ser 325 330 335		
Val Arg Gln Val His Ala Ser Gly Pro His Arg Phe Ser Phe Gly Thr 340 345 350		
Thr Val Ser Tyr Arg Cys Asn His Gly Phe Tyr Leu Leu Gly Thr Pro 355 360 365		
Val Leu Ser Cys Gln Gly Asp Gly Thr Trp Asp Arg Pro Arg Pro Gln 370 375 380		
Cys Leu Leu Val Ser Cys Gly His Pro Gly Ser Pro Pro His Ser Gln 385 390 395 400		
Met Ser Gly Asp Ser Tyr Thr Val Gly Ala Val Val Arg Tyr Ser Cys 405 410 415		
Ile Gly Lys Arg Thr Leu Val Gly Asn Ser Thr Arg Met Cys Gly Leu 420 425 430		
Asp Gly His Trp Thr Gly Ser Leu Pro His Cys Ser Gly Thr Ser Val 435 440 445		
Gly Val Cys Gly Asp Pro Gly Ile Pro Ala His Gly Ile Arg Leu Gly 450 455 460		
Asp Ser Phe Asp Pro Gly Thr Val Met Arg Phe Ser Cys Glu Ala Gly 465 470 475 480		
His Val Leu Arg Gly Ser Ser Glu Arg Thr Cys Gln Ala Asn Gly Ser 485 490 495		

Trp Ser Gly Ser Gln Pro Glu Cys Gly Val Ile Ser Cys Gly Asn Pro
 500 505 510
 Gly Thr Pro Ser Asn Ala Arg Val Val Phe Ser Asp Gly Leu Val Phe
 515 520 525
 Ser Ser Ser Ile Val Tyr Glu Cys Arg Glu Gly Tyr Tyr Ala Thr Gly
 530 535 540
 Leu Leu Ser Arg His Cys Ser Val Asn Gly Thr Trp Thr Gly Ser Asp
 545 550 555 560
 Pro Glu Cys Leu Val Ile Asn Cys Gly Asp Pro Gly Ile Pro Ala Asn
 565 570 575
 Gly Leu Arg Leu Gly Asn Asp Phe Arg Tyr Asn Lys Thr Val Thr Tyr
 580 585 590
 Gln Cys Val Pro Gly Tyr Met Met Glu Ser His Arg Val Ser Val Leu
 595 600 605
 Ser Cys Thr Lys Asp Arg Thr Trp Asn Gly Thr Lys Pro Val Cys Lys
 610 615 620
 Ala Leu Met Cys Lys Pro Pro Pro Leu Ile Pro Asn Gly Lys Val Val
 625 630 635 640
 Gly Ser Asp Phe Met Trp Gly Ser Ser Val Thr Tyr Ala Cys Leu Glu
 645 650 655
 Gly Tyr Gln Leu Ser Leu Pro Ala Val Phe Thr Cys Glu Gly Asn Gly
 660 665 670
 Ser Trp Thr Gly Glu Leu Pro Gln Cys Phe Pro Val Phe Cys Gly Asp
 675 680 685
 Pro Gly Val Pro Ser Arg Gly Arg Arg Glu Asp Arg Gly Phe Ser Tyr
 690 695 700
 Arg Ser Ser Val Ser Phe Ser Cys His Pro Pro Leu Val Leu Val Gly
 705 710 715 720
 Ser Pro Arg Arg Phe Cys Gln Ser Asp Gly Thr Trp Ser Gly Thr Gln
 725 730 735
 Pro Ser Cys Ile Asp Pro Thr Leu Thr Thr Cys Ala Asp Pro Gly Val
 740 745 750
 Pro Gln Phe Gly Ile Gln Asn Asn Ser Gln Gly Tyr Gln Val Gly Ser
 755 760 765
 Thr Val Leu Phe Arg Cys Gln Lys Gly Tyr Leu Leu Gln Gly Ser Thr
 770 775 780
 Thr Arg Thr Cys Leu Pro Asn Leu Thr Trp Ser Gly Thr Pro Pro Asp
 785 790 795 800

Cys Val Pro His His Cys Arg Gln Pro Glu Thr Pro Thr His Ala Asn
805 810 815

Val Gly Ala Leu Asp Leu Pro Ser Met Gly Tyr Thr Leu Ile Thr Pro
820 825 830

Ala Arg Arg Ala Ser Pro Ser Arg Val Ala Pro Ser Thr Ala Pro Ala
835 840 845

Arg Arg Met Ala Ala Gly Gln Ala Ser Arg Pro Ser Ala Trp Arg Ser
850 855 860

Gly Pro Val Gly Asp Pro Ser Thr Leu Pro Gly Ser His Arg Ser Pro
865 870 875 880

Lys Pro

<210> 33
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)
<223> Wherein Xaa is Ser or Thr

<220>
<221> VARIANT
<222> (2)
<223> Wherein Xaa is any two amino acids as set forth
in the specification

<220>
<221> VARIANT
<222> (3)
<223> Wherein Xaa is Asp or Glu

<220>
<223> Description of Artificial Sequence: consensus
sequence

<400> 33
Xaa Xaa Xaa
1

<210> 34
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (2)
<223> Wherein Xaa is any amino acid as set forth in the

specification

<220>
<221> VARIANT
<222> (4)
<223> Wherein Xaa is any 5 amino acids as set forth in
the specification

<220>
<221> VARIANT
<222> (6)
<223> Wherein Xaa is any 2 amino acids as set forth in
the specification

<220>
<223> Description of Artificial Sequence: consensus
sequence

<400> 34
Cys Xaa Cys Xaa Gly Xaa Cys
1 5

<210> 35
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (2)
<223> Wherein Xaa is any amino acid as set forth in the
specification

<220>
<221> VARIANT
<222> (4)
<223> Wherein Xaa is any two amino acids as set forth in
the specification

<220>
<221> VARIANT
<222> (5)
<223> Wherein Xaa is Gly or Pro

<220>
<221> VARIANT
<222> (6)
<223> Wherein Xaa is Phe or Tyr or Trp

<220>
<221> VARIANT
<222> (7)
<223> Wherein Xaa is any 4 or 8 amino acids as set forth
in the specification

<220>
<223> Description of Artificial Sequence: consensus

sequence

<400> 35

Cys Xaa Cys Xaa Xaa Xaa Xaa Cys
1 5

<210> 36

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> VARIANT

<222> (2)

<223> Wherein Xaa is any 1 or 2 amino acids as set forth
in the specification

<220>

<221> VARIANT

<222> (4)

<223> Wherein Xaa is any 5 amino acids as set forth in
the specification

<220>

<221> VARIANT

<222> (6)

<223> Wherein Xaa is any 2 amino acids as set forth in
the specification

<220>

<221> VARIANT

<222> (8)

<223> Wherein Xaa is any 2 amino acids as set forth in
the specification

<220>

<221> VARIANT

<222> (10)

<223> Wherein Xaa is any 3 or 4 amino acids as set forth
in the specification

<220>

<221> VARIANT

<222> (11)

<223> Wherein Xaa is Phe or Tyr or Trp

<220>

<221> VARIANT

<222> (12)

<223> Wherein Xaa is any 3 or 15 amino acids as set
forth in the specification

<220>

<223> Description of Artificial Sequence: consensus
sequence

<400> 36

Cys Xaa Cys Xaa Gly Xaa Cys Xaa Cys Xaa Xaa Xaa Cys
 1 5 10

<210> 37
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> VARIANT
 <222> (1)
 <223> Wherein Xaa is Arg or Lys

<220>
 <221> VARIANT
 <222> (2)
 <223> Wherein Xaa is any 3 amino acids as set forth in
 the specification

<220>
 <221> VARIANT
 <222> (3)
 <223> Wherein Xaa is D or E

<220>
 <221> VARIANT
 <222> (4)
 <223> Wherein Xaa is any 2 amino acids as set forth in
 the specification

<220>
 <223> Description of Artificial Sequence: consensus
 sequence

<400> 37
 Xaa Xaa Xaa Xaa Tyr
 1 5

<210> 38
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> VARIANT
 <222> (1)
 <223> Wherein Xaa is R or K

<220>
 <221> VARIANT
 <222> (2)
 <223> Wherein Xaa is any 2 amino acids as set forth in
 the specification

<220>
 <221> VARIANT

<222> (3)

<223> Wherein Xaa is D or E

<220>

<221> VARIANT

<222> (4)

<223> Wherein Xaa is any 3 amino acids as set forth in
the specification

<220>

<223> Description of Artificial Sequence: Consensus
sequence

<400> 38

Xaa Xaa Xaa Xaa Tyr

1

5